

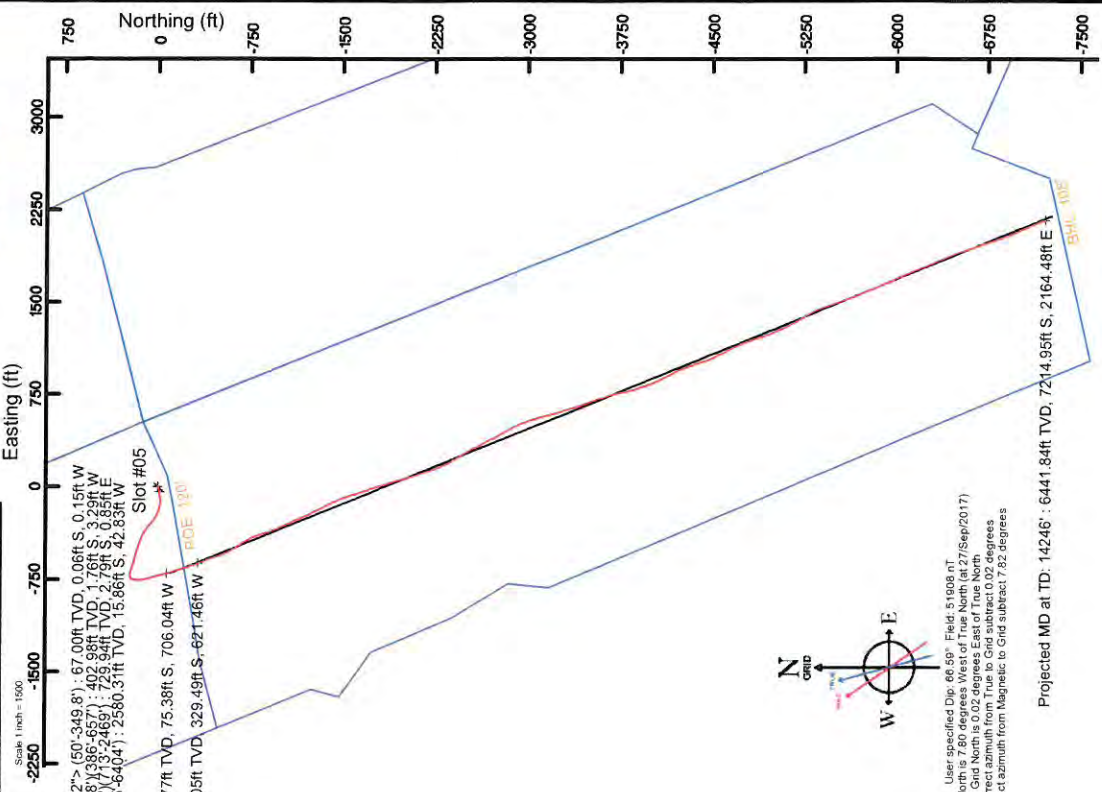


# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Field: Tyler  
 Facility: Ritchie Petroleum Pad



Slot: Slot #05  
 Well: Hopper Unit 2H  
 Wellbore: Hopper Unit 2H PWB



Gyrodala MS Gyro <17-112'> (50'-349.8') : 67.00ft TVD, 0.06ft S, 0.15ft W  
 Gyrodala MS Gyro <12-114'> (349.8') (386-657') : 402.98ft TVD, 1.76ft S, 3.29ft W  
 Directional ONE MWD <12-114'> (657') (713-2469') : 2580.31ft TVD, 15.86ft S, 42.83ft W  
 Directional ONE MWD <8-314'> (2469') (2565-6404') : 2580.31ft TVD, 15.86ft S, 42.83ft W  
 BH AT Curve <8-112'> (6421') (6493-14222') : 6303.77ft TVD, 75.38ft S, 706.04ft W  
 Marcellus POE: 6797' MD : 6434.05ft TVD, 329.49ft S, -627.46ft W

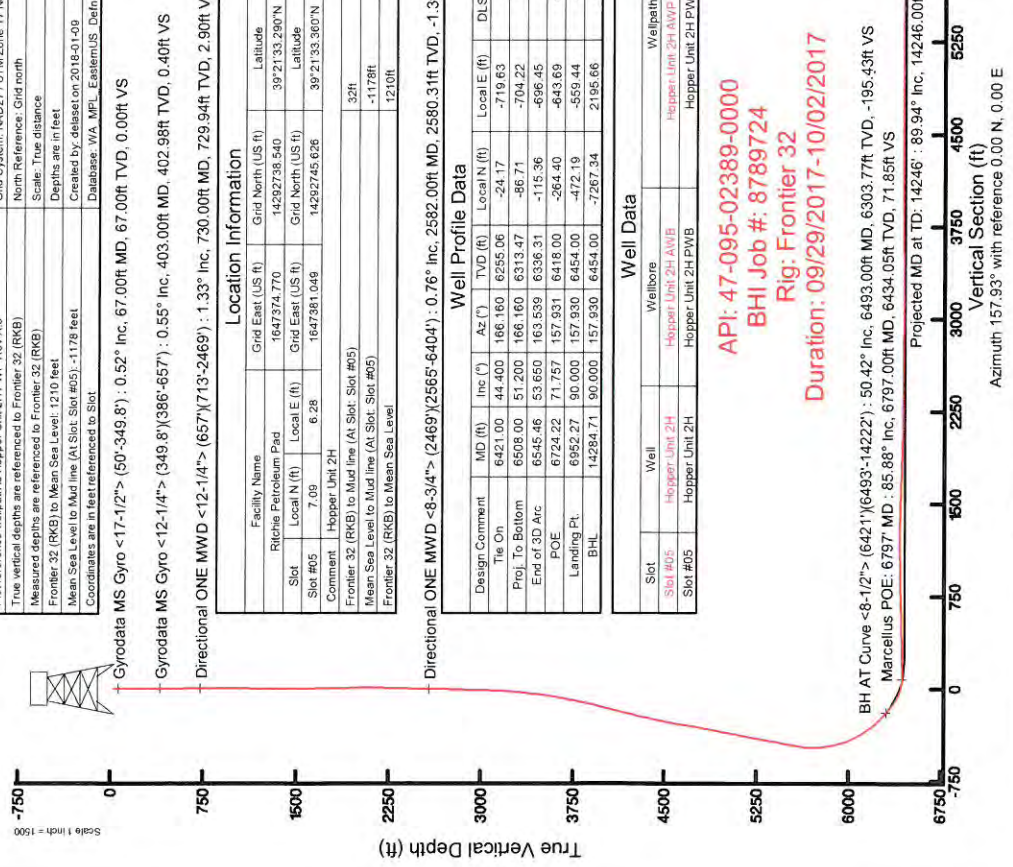
|  |   |
|--|---|
| Plot reference wellbore is Hopper Unit 2H PWB Rev-A.0      | Grid System: NAD27 / UTM Zone 17 North, US feet |
| True vertical depths are referenced to Frontier 32 (RKB)   | North Reference: Grid north                     |
| Measured depths are referenced to Frontier 32 (RKB)        | Scale: True distance                            |
| Frontier 32 (RKB) to Mean Sea Level: 1210 feet             | Depths are in feet                              |
| Mean Sea Level to Mud line (At Slot: Slot #05): -1178 feet | Created by: dallas on 2016-01-09                |
| Coordinates are in feet referenced to Slot                 | Database: WA_MPL_EasternUS_Defn                 |

| Location Information                              |                   |                   |                    |
|---|-------------------|-------------------|--------------------|
| Facility Name                                     | Grid East (US ft) | Latitude          | Longitude          |
| Ritchie Petroleum Pad                             | 1647374.770       | 14292738.540      | 39°21'33.290"N     |
| Slot #05  | Local E (ft)      | Grid East (US ft) | Grid North (US ft) |
|   | 7.09              | 1647381.049       | 14292745.628       |
| Comment   | Hopper Unit 2H    |                   |                    |
| Frontier 32 (RKB) to Mud line (At Slot: Slot #05) | 32ft              |                   |                    |
| Mean Sea Level to Mud line (At Slot: Slot #05)    | -1178ft           |                   |                    |
| Frontier 32 (RKB) to Mean Sea Level               | 1210ft            |                   |                    |

| Well Profile Data |          |         |         |          |              |              |               |         |
|-------------------|----------|---------|---------|----------|--------------|--------------|---------------|---------|
| Design Comment    | MD (ft)  | Inc (") | Az (°)  | TVD (ft) | Local N (ft) | Local E (ft) | DLS (°/100ft) | VS (ft) |
| Tie On            | 6421.00  | 44.400  | 166.160 | 6255.06  | -24.17       | -719.63      | 5.60          | -247.99 |
| Proj. To Bottom   | 6508.00  | 51.200  | 166.160 | 6313.47  | -86.71       | -704.22      | 7.82          | -164.24 |
| End of 3D Arc     | 6545.46  | 53.650  | 163.539 | 6336.31  | -115.36      | -696.45      | 8.57          | -154.77 |
| POE               | 6724.22  | 71.757  | 157.931 | 6418.00  | -264.40      | -643.69      | 10.50         | 3.17    |
| Landing Pt.       | 6952.27  | 90.000  | 157.930 | 6454.00  | -472.19      | -559.44      | 8.00          | 227.38  |
| BHL               | 14284.71 | 90.000  | 157.930 | 6454.00  | -7267.34     | 2195.66      | 0.00          | 7559.82 |

| Well Data |                |                            |
|-----------|----------------|----------------------------|
| Slot      | Well           | Wellbore                   |
| Slot #05  | Hopper Unit 2H | Hopper Unit 2H AVWB        |
|           |                | Hopper Unit 2H PWB         |
|           |                | Hopper Unit 2H PWB Rev-A.0 |

API: 47-095-02389-0000  
 BHI Job #: 8789724  
 Rig: Frontier 32  
 Duration: 09/29/2017-10/02/2017



Projected MD at TD: 14246' : 89.94° inc, 14246.00ft MD, 6441.84ft TVD, 7499.56ft VS  
 Vertical Section (ft)  
 Azimuth 157.93° with reference 0.00 N, 0.00 E

Users specified Dip: 68.63° Field: 51.938 BT  
 Magnetic North is 7.60 degrees West of True North (27/Sep/2017)  
 Grid North is 0.02 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.02 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.82 degrees



# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

|          |                              |                    |
|----------|------------------------------|--------------------|
| Operator | ANTERO RESOURCES CORPORATION | Slot #05           |
| Area     | Tyler County, WV             | Hopper Unit 2H     |
| Field    | Tyler                        | Hopper Unit 2H AWB |
| Facility | Ritchie Petroleum Pad        |                    |

## REPORT SETUP INFORMATION

|                     |                                    |                      |  |
|---------------------|------------------------------------|----------------------|--|
| Projection System   | NAD27 / UTM Zone 17 North, US feet | Software System      | WellArchitect® 5.1                                       |
| North Reference     | Grid                               | User                 | Delaset  |
| Scale               | 0.999600                           | Report Generated     | 09/Jan/2018 at 09:36                                     |
| Convergence at slot | 0.02° East                         | Database/Source file | WA_MPL_EasternUS_Defn/Hopper_Unit_2H_AWP_Proj_14246_.xml |

## WELLPATH LOCATION

|                       | Local coordinates |           | Grid coordinates |                  | Geographic coordinates |                |
|-----------------------|-------------------|-----------|------------------|------------------|------------------------|----------------|
|                       | North [ft]        | East [ft] | Easting [US ft]  | Northing [US ft] | Latitude               | Longitude      |
| Slot Location         | 7.09              | 6.28      | 1647381.05       | 14292745.63      | 39°21'33.360"N         | 80°58'31.300"W |
| Facility Reference Pt |                   |           | 1647374.77       | 14292738.54      | 39°21'33.290"N         | 80°58'31.380"W |
| Field Reference Pt    |                   |           | 0.00             | 0.00             | 0°00'00.000"           | 85°29'19.301"W |

## WELLPATH DATUM

|                          |                   |  |                   |
|--------------------------|-------------------|--|-------------------|
| Calculation method       | Minimum curvature | Frontier 32 (RKB) to Facility Vertical Datum     | 32.00ft           |
| Horizontal Reference Pt  | Slot              | Frontier 32 (RKB) to Mean Sea Level              | 1210.00ft         |
| Vertical Reference Pt    | Frontier 32 (RKB) | Frontier 32 (RKB) to Mud Line at Slot (Slot #05) | 32.00ft           |
| MD Reference Pt          | Frontier 32 (RKB) | Section Origin                                   | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level    | Section Azimuth                                  | 157.93°           |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'  
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## REFERENCE WELLPATH IDENTIFICATION

|          |                              |          |                    |
|----------|------------------------------|----------|--------------------|
| Operator | ANTERO RESOURCES CORPORATION | Slot     | Slot #05           |
| Area     | Tyler County, WV             | Well     | Hopper Unit 2H     |
| Field    | Tyler                        | Wellbore | Hopper Unit 2H AWB |
| Facility | Ritchie Petroleum Pad        |          |                    |

## WELLPATH DATA (186 stations) † = interpolated/extrapolated station

| MD (ft) | Inclination (°) | Azimuth (°) | TVD (ft) | Vert Sect (ft) | North (ft) | East (ft)  | Grid East (ft) | Grid North (ft) | Latitude       | Longitude      | Closure Dist (ft) | Closure Dir (°) | DLS (ft/100ft) | Build Rate (ft/100ft) | Turn Rate (ft/100ft) | Comments   |
|---------|-----------------|-------------|----------|----------------|------------|------------|----------------|-----------------|----------------|----------------|-------------------|-----------------|----------------|-----------------------|----------------------|--|
| 0.00    | 0.000           | 246.720     | 0.00     | 0.00           | 0.00       | 1647381.05 | 14292745.63    | 39°21'33.360"N  | 80°58'31.300"W | 0.00           | 0.000             | 0.00            | 0.00           | 0.00                  | 0.00                 |  |
| 32.00   | 0.000           | 246.720     | 32.00    | 0.00           | 0.00       | 1647381.05 | 14292745.63    | 39°21'33.360"N  | 80°58'31.300"W | 0.00           | 0.000             | 0.00            | 0.00           | 0.00                  | 0.00                 |  |
| 67.00   | 0.520           | 246.720     | 67.00    | 0.00           | -0.06      | -0.15      | 1647380.90     | 14292745.56     | 39°21'33.359"N | 80°58'31.302"W | 0.16              | 246.720         | 1.49           | 1.49                  | -323.66              | Gyrodatta MS Gyro <17-1/2"> (50'-349.8')         |
| 67.70   | 0.380           | 236.670     | 67.70    | 0.00           | -0.07      | -0.15      | 1647380.90     | 14292745.56     | 39°21'33.359"N | 80°58'31.302"W | 0.16              | 246.579         | 22.89          | -20.00                | -1435.71             |  |
| 115.30  | 0.450           | 236.590     | 115.30   | 0.07           | -0.28      | -0.44      | 1647380.61     | 14292745.37     | 39°21'33.357"N | 80°58'31.306"W | 0.51              | 239.467         | 0.15           | 0.15                  | -2.27                |  |
| 117.00  | 0.520           | 249.770     | 117.00   | 0.08           | -0.26      | -0.45      | 1647380.60     | 14292745.36     | 39°21'33.357"N | 80°58'31.306"W | 0.52              | 239.569         | 8.14           | 4.12                  | 834.12               |  |
| 166.70  | 0.520           | 245.490     | 166.70   | 0.08           | -0.44      | -0.87      | 1647380.18     | 14292745.19     | 39°21'33.356"N | 80°58'31.311"W | 0.97              | 243.306         | 0.08           | 0.00                  | -8.61                |  |
| 167.30  | 0.560           | 233.960     | 167.30   | 0.08           | -0.44      | -0.87      | 1647379.71     | 14292744.99     | 39°21'33.356"N | 80°58'31.311"W | 0.98              | 243.284         | 19.26          | 6.67                  | -1921.67             |  |
| 216.60  | 0.660           | 258.910     | 216.60   | 0.08           | -0.63      | -1.34      | 1647379.71     | 14292744.99     | 39°21'33.354"N | 80°58'31.317"W | 1.49              | 244.727         | 0.57           | 0.20                  | 50.61                |  |
| 217.40  | 0.740           | 252.660     | 217.39   | 0.08           | -0.64      | -1.35      | 1647379.70     | 14292744.99     | 39°21'33.354"N | 80°58'31.317"W | 1.50              | 244.798         | 13.81          | 10.00                 | -781.25              |  |
| 267.00  | 0.570           | 243.740     | 266.99   | 0.07           | -0.84      | -1.88      | 1647379.17     | 14292744.78     | 39°21'33.352"N | 80°58'31.324"W | 2.06              | 245.889         | 0.40           | -0.34                 | -17.98               |  |
| 267.50  | 0.600           | 245.580     | 267.49   | 0.07           | -0.84      | -1.89      | 1647379.16     | 14292744.78     | 39°21'33.352"N | 80°58'31.324"W | 2.07              | 245.886         | 7.08           | 6.00                  | 368.00               |  |
| 317.00  | 0.740           | 238.070     | 316.99   | 0.14           | -1.12      | -2.39      | 1647378.66     | 14292744.51     | 39°21'33.349"N | 80°58'31.330"W | 2.64              | 244.913         | 0.33           | 0.28                  | -15.17               |  |
| 317.70  | 0.740           | 236.580     | 317.59   | 0.14           | -1.13      | -2.40      | 1647378.65     | 14292744.50     | 39°21'33.349"N | 80°58'31.331"W | 2.65              | 244.888         | 2.75           | 0.00                  | -212.86              |  |
| 366.80  | 0.810           | 233.980     | 366.78   | 0.29           | -1.50      | -2.95      | 1647378.10     | 14292744.12     | 39°21'33.345"N | 80°58'31.338"W | 3.31              | 242.956         | 0.16           | 0.14                  | -5.30                |  |
| 403.00  | 0.550           | 231.590     | 402.98   | 0.40           | -1.76      | -3.29      | 1647377.76     | 14292743.86     | 39°21'33.343"N | 80°58'31.342"W | 3.73              | 241.817         | 0.72           | -0.72                 | -6.60                | Gyrodatta MS Gyro <12-1/4"> (349.8')(386'-657')  |
| 491.00  | 0.510           | 100.750     | 490.98   | 0.73           | -2.10      | -3.24      | 1647377.82     | 14292743.53     | 39°21'33.339"N | 80°58'31.341"W | 3.86              | 237.040         | 1.10           | -0.05                 | -148.68              |  |
| 582.00  | 0.900           | 109.440     | 581.97   | 1.42           | -2.41      | -2.16      | 1647378.89     | 14292743.22     | 39°21'33.336"N | 80°58'31.328"W | 3.24              | 221.900         | 0.44           | 0.43                  | 9.55                 |  |
| 674.00  | 1.310           | 94.660      | 673.95   | 2.37           | -2.74      | -0.43      | 1647380.62     | 14292742.89     | 39°21'33.333"N | 80°58'31.306"W | 2.77              | 189.008         | 0.54           | 0.45                  | -16.07               |  |
| 730.00  | 1.330           | 89.720      | 729.94   | 2.90           | -2.79      | 0.85       | 1647381.90     | 14292742.84     | 39°21'33.332"N | 80°58'31.289"W | 2.91              | 162.958         | 0.21           | 0.04                  | -8.82                | Directional ONE MWD <12-1/4"> (657')(713'-2469') |
| 820.00  | 0.430           | 131.320     | 819.93   | 3.59           | -3.00      | 2.15       | 1647383.20     | 14292742.62     | 39°21'33.330"N | 80°58'31.273"W | 3.70              | 144.380         | 1.16           | -1.00                 | 46.22                |  |
| 895.00  | 1.040           | 237.320     | 894.92   | 3.97           | -3.56      | 1.79       | 1647382.84     | 14292742.07     | 39°21'33.325"N | 80°58'31.277"W | 3.98              | 153.281         | 1.64           | 0.81                  | 141.33               |  |
| 984.00  | 2.410           | 254.920     | 983.88   | 3.89           | -4.48      | -0.70      | 1647380.35     | 14292741.15     | 39°21'33.316"N | 80°58'31.309"W | 4.53              | 188.832         | 1.63           | 1.54                  | 19.78                |  |
| 1072.00 | 3.690           | 269.530     | 1071.76  | 2.62           | -4.98      | -5.31      | 1647375.74     | 14292740.64     | 39°21'33.311"N | 80°58'31.368"W | 7.29              | 226.834         | 1.69           | 1.45                  | 16.60                |  |
| 1160.00 | 4.850           | 260.560     | 1159.51  | 0.77           | -5.62      | -11.82     | 1647369.24     | 14292740.01     | 39°21'33.305"N | 80°58'31.450"W | 13.08             | 244.571         | 1.52           | 1.32                  | -10.19               |  |
| 1249.00 | 5.290           | 263.040     | 1248.16  | -1.13          | -6.73      | -19.60     | 1647361.46     | 14292738.90     | 39°21'33.294"N | 80°58'31.550"W | 20.72             | 251.043         | 0.55           | 0.49                  | 2.79                 |  |
| 1337.00 | 4.400           | 257.030     | 1335.85  | -2.72          | -7.98      | -26.92     | 1647354.14     | 14292737.65     | 39°21'33.281"N | 80°58'31.643"W | 28.08             | 253.483         | 1.16           | -1.01                 | -6.83                |  |
| 1425.00 | 3.000           | 240.800     | 1423.67  | -2.96          | -9.86      | -32.22     | 1647348.85     | 14292735.77     | 39°21'33.263"N | 80°58'31.710"W | 33.69             | 252.978         | 1.97           | -1.59                 | -18.44               |  |
| 1514.00 | 2.230           | 203.110     | 1512.68  | -1.46          | -12.59     | -34.93     | 1647346.13     | 14292733.04     | 39°21'33.236"N | 80°58'31.745"W | 37.13             | 250.176         | 2.07           | -0.87                 | -42.35               |  |
| 1602.00 | 1.400           | 197.360     | 1600.53  | 0.58           | -15.19     | -35.92     | 1647345.14     | 14292730.44     | 39°21'33.210"N | 80°58'31.757"W | 39.00             | 247.075         | 0.96           | -0.94                 | -6.53                |  |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

| Operator | ANTERO RESOURCES CORPORATION | Slot     | Slot #05           |
|----------|------------------------------|----------|--------------------|
| Area     | Tyler County, WV             | Well     | Hopper Unit 2H     |
| Field    | Tyler                        | Wellbore | Hopper Unit 2H AWB |
| Facility | Ritchie Petroleum Pad        |          |                    |

## WELLPATH DATA (186 stations)

| MD      | Inclination | Azimuth | TVD     | Vert Sect | North  | East    | Grid East  | Grid North  | Latitude       | Longitude      | Closure Dist | Closure Dir | DLS      | Build Rate | Turn Rate | Comments   |
|---------|-------------|---------|---------|-----------|--------|---------|------------|-------------|----------------|----------------|--------------|-------------|----------|------------|-----------|--|
| ft      | °           | °       | ft      | ft        | ft     | ft      | ft         | ft          | ft             | ft             | ft           | ft          | ft/100ft | ft/100ft   | ft/100ft  |  |
| 1690.00 | 1.130       | 185.160 | 1688.51 | 2.18      | -17.08 | -36.32  | 1647344.74 | 14292728.55 | 39°21'33.191"N | 80°58'31.762"W | 40.14        | 244.811     | 0.43     | -0.31      | -13.86    |  |
| 1778.00 | 1.070       | 183.140 | 1776.50 | 3.70      | -18.77 | -36.44  | 1647344.62 | 14292726.87 | 39°21'33.175"N | 80°58'31.764"W | 40.99        | 242.753     | 0.08     | -0.07      | -2.30     |  |
| 1866.00 | 1.100       | 184.580 | 1864.48 | 5.28      | -20.40 | -36.26  | 1647344.80 | 14292725.23 | 39°21'33.158"N | 80°58'31.762"W | 41.61        | 240.638     | 0.40     | 0.03       | -21.09    |  |
| 1955.00 | 1.430       | 134.940 | 1953.46 | 7.15      | -22.01 | -35.25  | 1647345.81 | 14292723.62 | 39°21'33.143"N | 80°58'31.749"W | 41.56        | 238.020     | 0.81     | 0.37       | -33.30    |  |
| 2043.00 | 0.400       | 132.270 | 2041.45 | 8.44      | -22.99 | -34.25  | 1647346.82 | 14292722.64 | 39°21'33.133"N | 80°58'31.736"W | 41.25        | 236.123     | 1.17     | -1.17      | -3.03     |  |
| 2131.00 | 0.890       | 308.730 | 2129.44 | 8.12      | -22.77 | -34.55  | 1647346.51 | 14292722.86 | 39°21'33.135"N | 80°58'31.740"W | 41.38        | 236.614     | 1.47     | 0.56       | 200.52    |  |
| 2219.00 | 1.350       | 312.690 | 2217.43 | 6.59      | -21.64 | -35.85  | 1647345.22 | 14292723.99 | 39°21'33.146"N | 80°58'31.756"W | 41.87        | 238.881     | 0.53     | 0.52       | 4.50      |  |
| 2307.00 | 1.610       | 311.020 | 2305.40 | 4.55      | -20.13 | -37.54  | 1647343.52 | 14292725.51 | 39°21'33.161"N | 80°58'31.778"W | 42.80        | 241.804     | 0.30     | 0.30       | -1.90     |  |
| 2396.00 | 1.820       | 308.710 | 2394.36 | 2.20      | -18.42 | -39.59  | 1647341.48 | 14292727.21 | 39°21'33.178"N | 80°58'31.804"W | 43.67        | 245.045     | 0.25     | 0.24       | -2.60     |  |
| 2486.00 | 1.280       | 311.520 | 2484.32 | 0.05      | -16.86 | -41.46  | 1647339.61 | 14292728.77 | 39°21'33.193"N | 80°58'31.828"W | 44.75        | 247.866     | 0.61     | -0.60      | 3.12      |  |
| 2582.00 | 0.760       | 296.800 | 2580.31 | -1.39     | -15.86 | -42.83  | 1647338.24 | 14292729.77 | 39°21'33.203"N | 80°58'31.845"W | 45.67        | 249.674     | 0.60     | -0.54      | -15.33    | Directional ONE MWD <-8-3/4"> (2469')(2565'-6404') |
| 2670.00 | 0.460       | 296.210 | 2668.30 | -2.10     | -15.44 | -43.68  | 1647337.39 | 14292730.19 | 39°21'33.208"N | 80°58'31.856"W | 46.33        | 250.534     | 0.32     | -0.32      | -0.67     |  |
| 2758.00 | 3.200       | 279.100 | 2756.25 | -3.65     | -14.89 | -46.44  | 1647334.63 | 14292730.74 | 39°21'33.213"N | 80°58'31.891"W | 48.78        | 252.224     | 3.12     | 3.09       | -19.44    |  |
| 2847.00 | 5.910       | 273.560 | 2844.96 | -6.92     | -14.21 | -53.46  | 1647327.61 | 14292731.42 | 39°21'33.220"N | 80°58'31.981"W | 55.32        | 255.116     | 3.08     | 3.04       | -6.22     |  |
| 2935.00 | 7.630       | 262.000 | 2932.35 | -10.30    | -14.74 | -63.77  | 1647317.30 | 14292730.89 | 39°21'33.214"N | 80°58'32.112"W | 65.45        | 256.984     | 2.48     | 1.95       | -13.14    |  |
| 3023.00 | 7.510       | 252.720 | 3019.59 | -12.20    | -17.26 | -75.05  | 1647306.03 | 14292728.37 | 39°21'33.190"N | 80°58'32.256"W | 77.01        | 257.046     | 1.39     | -0.14      | -10.55    |  |
| 3112.00 | 9.530       | 258.020 | 3107.60 | -13.98    | -20.52 | -87.81  | 1647293.27 | 14292725.11 | 39°21'33.157"N | 80°58'32.418"W | 90.18        | 256.847     | 2.43     | 2.27       | 5.96      |  |
| 3199.00 | 11.080      | 264.980 | 3193.20 | -17.69    | -22.75 | -103.18 | 1647277.91 | 14292722.89 | 39°21'33.135"N | 80°58'32.614"W | 105.66       | 257.568     | 2.28     | 1.78       | 8.00      |  |
| 3288.00 | 11.610      | 271.560 | 3280.46 | -23.79    | -23.25 | -120.66 | 1647260.44 | 14292722.38 | 39°21'33.131"N | 80°58'32.836"W | 122.88       | 259.092     | 1.57     | 0.60       | 7.39      |  |
| 3376.00 | 11.930      | 279.830 | 3366.62 | -32.14    | -21.46 | -138.47 | 1647242.63 | 14292724.18 | 39°21'33.148"N | 80°58'33.063"W | 140.12       | 261.192     | 1.95     | 0.36       | 9.40      |  |
| 3464.00 | 13.460      | 282.160 | 3452.46 | -42.71    | -17.75 | -157.45 | 1647223.67 | 14292727.89 | 39°21'33.185"N | 80°58'33.305"W | 158.44       | 263.569     | 1.83     | 1.74       | 2.65      |  |
| 3552.00 | 13.030      | 286.690 | 3538.13 | -54.68    | -12.74 | -176.96 | 1647204.16 | 14292732.89 | 39°21'33.235"N | 80°58'33.565"W | 177.42       | 265.882     | 1.28     | -0.49      | 5.15      |  |
| 3641.00 | 13.670      | 294.050 | 3624.73 | -68.55    | -5.57  | -196.18 | 1647184.95 | 14292740.06 | 39°21'33.305"N | 80°58'34.798"W | 196.26       | 268.373     | 2.04     | 0.72       | 8.27      |  |
| 3729.00 | 15.360      | 294.360 | 3709.91 | -84.49    | 3.47   | -216.29 | 1647164.84 | 14292749.10 | 39°21'33.395"N | 80°58'34.054"W | 216.32       | 270.920     | 1.92     | 1.92       | 0.35      |  |
| 3818.00 | 16.340      | 294.670 | 3795.53 | -102.15   | 13.56  | -238.41 | 1647142.74 | 14292759.18 | 39°21'33.495"N | 80°58'34.335"W | 238.78       | 273.256     | 1.11     | 1.10       | 0.35      |  |
| 3905.00 | 16.230      | 299.540 | 3879.04 | -120.59   | 24.66  | -260.11 | 1647121.05 | 14292770.28 | 39°21'33.604"N | 80°58'34.611"W | 261.27       | 275.417     | 1.57     | -0.13      | 5.60      |  |
| 3994.00 | 16.020      | 306.430 | 3964.55 | -140.81   | 38.09  | -280.81 | 1647100.35 | 14292783.70 | 39°21'33.737"N | 80°58'34.875"W | 283.38       | 277.725     | 2.16     | -0.24      | 7.74      |  |
| 4082.00 | 16.130      | 314.730 | 4049.12 | -162.40   | 53.91  | -299.27 | 1647081.90 | 14292799.51 | 39°21'33.894"N | 80°58'35.110"W | 304.08       | 280.211     | 2.61     | 0.12       | 9.43      |  |
| 4170.00 | 14.720      | 309.830 | 4133.95 | -183.50   | 69.67  | -316.54 | 1647064.64 | 14292815.27 | 39°21'34.049"N | 80°58'35.330"W | 324.12       | 282.413     | 2.18     | -1.60      | -5.57     |  |
| 4259.00 | 15.860      | 307.190 | 4219.80 | -203.94   | 84.27  | -334.92 | 1647046.26 | 14292829.87 | 39°21'34.194"N | 80°58'35.564"W | 345.36       | 284.124     | 1.52     | 1.30       | -2.97     |  |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Slot     | Slot #05           |
|------------------------------|----------|--------------------|
| ANTERO RESOURCES CORPORATION | Well     | Hopper Unit 2H     |
| Tyler County, WV             | Wellbore | Hopper Unit 2H AWB |
| Tyler                        |          |                    |
| Ritchie Petroleum Pad        |          |                    |

## WELLPATH DATA (186 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 |
|---------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|----------|
| 4347.00 | 14.540          | 303.830     | 4304.71  | -223.44        | 97.70      | -353.69   | 1647027.50        | 14292843.29        | 39°21'34.327"N | 80°58'35.803"W | 366.94            | 285.442         | 1.82          | -1.52                | -3.82               |          |
| 4435.00 | 15.550          | 298.640     | 4389.70  | -241.72        | 109.51     | -373.22   | 1647007.98        | 14292855.09        | 39°21'34.443"N | 80°58'36.051"W | 388.96            | 286.352         | 1.91          | 1.15                 | -5.90               |          |
| 4523.00 | 14.680          | 295.930     | 4474.66  | -259.13        | 120.04     | -393.60   | 1646987.60        | 14292865.61        | 39°21'34.547"N | 80°58'36.311"W | 411.50            | 286.960         | 1.27          | -0.99                | -3.08               |          |
| 4612.00 | 15.470          | 295.040     | 4560.59  | -276.21        | 129.89     | -414.50   | 1646966.72        | 14292875.57        | 39°21'34.646"N | 80°58'36.577"W | 434.40            | 287.412         | 0.92          | 0.89                 | -1.00               |          |
| 4700.00 | 14.690          | 289.030     | 4645.57  | -292.15        | 138.80     | -435.68   | 1646945.54        | 14292884.17        | 39°21'34.731"N | 80°58'36.846"W | 457.20            | 287.647         | 1.98          | -0.89                | -6.83               |          |
| 4788.00 | 15.420          | 285.160     | 4730.55  | -306.56        | 145.30     | -457.52   | 1646923.71        | 14292890.86        | 39°21'34.797"N | 80°58'37.124"W | 480.04            | 287.618         | 1.41          | 0.83                 | -4.40               |          |
| 4877.00 | 16.040          | 288.150     | 4816.22  | -321.66        | 152.22     | -480.63   | 1646900.61        | 14292897.79        | 39°21'34.866"N | 80°58'37.418"W | 504.16            | 287.574         | 1.15          | 0.70                 | 3.36                |          |
| 4965.00 | 15.470          | 290.300     | 4900.91  | -337.42        | 160.08     | -503.19   | 1646878.06        | 14292905.64        | 39°21'34.943"N | 80°58'37.706"W | 528.04            | 287.647         | 0.93          | -0.65                | 2.44                |          |
| 5053.00 | 15.960          | 287.840     | 4985.62  | -353.09        | 167.86     | -525.71   | 1646855.55        | 14292913.42        | 39°21'35.020"N | 80°58'37.992"W | 551.86            | 287.708         | 0.94          | 0.56                 | -2.80               |          |
| 5141.00 | 18.300          | 287.030     | 5069.71  | -369.57        | 175.61     | -550.44   | 1646830.83        | 14292921.17        | 39°21'35.097"N | 80°58'38.307"W | 577.78            | 287.695         | 2.67          | 2.66                 | -0.92               |          |
| 5229.00 | 17.620          | 282.520     | 5153.43  | -385.84        | 182.55     | -576.66   | 1646804.62        | 14292928.10        | 39°21'35.166"N | 80°58'38.641"W | 604.86            | 287.566         | 1.76          | -0.77                | -5.12               |          |
| 5317.00 | 15.530          | 284.680     | 5237.77  | -400.45        | 188.42     | -601.06   | 1646780.23        | 14292933.97        | 39°21'35.224"N | 80°58'38.952"W | 629.90            | 287.405         | 2.48          | -2.38                | 2.45                |          |
| 5406.00 | 16.300          | 286.840     | 5323.36  | -415.39        | 195.02     | -624.55   | 1646756.75        | 14292940.56        | 39°21'35.289"N | 80°58'39.251"W | 654.29            | 287.341         | 1.05          | 0.87                 | 2.20                |          |
| 5494.00 | 18.050          | 288.600     | 5407.43  | -432.00        | 202.90     | -649.31   | 1646732.00        | 14292948.45        | 39°21'35.367"N | 80°58'39.566"W | 680.27            | 287.353         | 2.09          | 1.99                 | 2.23                |          |
| 5582.00 | 16.390          | 285.910     | 5491.48  | -448.53        | 210.65     | -674.17   | 1646707.15        | 14292956.19        | 39°21'35.444"N | 80°58'39.882"W | 706.31            | 287.352         | 2.09          | -1.89                | -3.06               |          |
| 5670.00 | 15.600          | 287.900     | 5576.08  | -463.77        | 217.69     | -697.37   | 1646683.96        | 14292963.23        | 39°21'35.513"N | 80°58'40.178"W | 730.56            | 287.336         | 1.09          | -0.90                | 2.26                |          |
| 5715.00 | 14.890          | 281.990     | 5619.50  | -470.90        | 220.75     | -708.78   | 1646672.55        | 14292968.29        | 39°21'35.544"N | 80°58'40.323"W | 742.37            | 287.299         | 3.79          | -1.58                | -13.13              |          |
| 5759.00 | 13.890          | 266.080     | 5662.13  | -475.71        | 221.57     | -719.59   | 1646661.75        | 14292967.11        | 39°21'35.562"N | 80°58'40.460"W | 752.93            | 287.114         | 9.24          | -2.27                | -36.16              |          |
| 5803.00 | 14.160          | 249.080     | 5704.84  | -477.46        | 219.28     | -729.89   | 1646651.45        | 14292964.82        | 39°21'35.529"N | 80°58'40.592"W | 762.12            | 286.722         | 9.35          | 0.61                 | -38.64              |          |
| 5847.00 | 14.170          | 233.890     | 5747.51  | -476.27        | 214.19     | -739.27   | 1646642.08        | 14292959.73        | 39°21'35.479"N | 80°58'40.711"W | 769.67            | 286.158         | 8.43          | 0.02                 | -34.52              |          |
| 5891.00 | 13.010          | 214.210     | 5790.31  | -472.21        | 206.91     | -746.41   | 1646634.94        | 14292952.46        | 39°21'35.407"N | 80°58'40.802"W | 774.56            | 285.494         | 10.78         | -2.64                | -44.73              |          |
| 5935.00 | 12.340          | 198.430     | 5833.25  | -465.88        | 198.35     | -750.68   | 1646630.67        | 14292943.90        | 39°21'35.322"N | 80°58'40.886"W | 776.45            | 284.801         | 7.99          | -1.52                | -35.86              |          |
| 5980.00 | 14.780          | 190.160     | 5876.99  | -457.37        | 188.14     | -753.21   | 1646628.14        | 14292933.69        | 39°21'35.221"N | 80°58'40.859"W | 776.36            | 284.025         | 6.91          | 5.42                 | -18.38              |          |
| 6024.00 | 17.510          | 188.030     | 5919.25  | -446.89        | 176.06     | -755.13   | 1646626.22        | 14292921.61        | 39°21'35.102"N | 80°58'40.913"W | 775.38            | 283.124         | 6.35          | 6.20                 | -4.84               |          |
| 6068.00 | 20.690          | 185.190     | 5960.83  | -434.25        | 161.76     | -756.76   | 1646624.60        | 14292907.32        | 39°21'34.961"N | 80°58'40.934"W | 773.85            | 282.066         | 7.53          | 7.23                 | -6.45               |          |
| 6112.00 | 23.900          | 179.150     | 6001.54  | -419.03        | 145.10     | -757.33   | 1646624.02        | 14292890.67        | 39°21'34.796"N | 80°58'40.941"W | 771.10            | 280.846         | 8.95          | 7.30                 | -13.73              |          |
| 6157.00 | 27.400          | 172.590     | 6042.10  | -400.50        | 125.71     | -755.86   | 1646625.50        | 14292871.28        | 39°21'34.604"N | 80°58'40.923"W | 766.24            | 279.443         | 10.01         | 7.78                 | -14.58              |          |
| 6201.00 | 30.530          | 168.820     | 6080.60  | -379.73        | 104.70     | -752.38   | 1646628.97        | 14292850.28        | 39°21'34.397"N | 80°58'40.878"W | 759.63            | 277.922         | 8.23          | 7.11                 | -8.57               |          |
| 6245.00 | 32.610          | 166.620     | 6118.09  | -357.03        | 82.20      | -747.47   | 1646633.88        | 14292827.79        | 39°21'34.174"N | 80°58'40.816"W | 751.98            | 276.275         | 5.40          | 4.73                 | -5.00               |          |
| 6289.00 | 35.270          | 165.550     | 6154.59  | -332.71        | 58.36      | -741.56   | 1646639.79        | 14292803.96        | 39°21'33.939"N | 80°58'40.741"W | 743.85            | 274.499         | 6.20          | 6.05                 | -2.43               |          |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'  
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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Area             | Field | Facility              | Slot     | Slot #05           |
|------------------------------|------------------|-------|-----------------------|----------|--------------------|
| ANTERO RESOURCES CORPORATION | Tyler County, WV | Tyler | Ritchie Petroleum Pad | Well     | Hopper Unit 2H     |
|                              |                  |       |                       | Wellbore | Hopper Unit 2H AWB |

## WELLPATH DATA (186 stations) † = interpolated/extrapolated station

| MD (ft)  | Inclination (°) | Azimuth (°) | TVD (ft) | VertSect (ft) | North (ft) | East (ft) | Grid East (ft) | Grid North (ft) | Latitude       | Longitude      | Closure Dist (ft) | Closure Dir (°) | DLS (ft/100ft) | Build Rate (ft/100ft) | Turn Rate (ft/100ft) | Comments                                   |
|----------|-----------------|-------------|----------|---------------|------------|-----------|----------------|-----------------|----------------|----------------|-------------------|-----------------|----------------|-----------------------|----------------------|--|
| 6333.00  | 39.120          | 164.730     | 6189.63  | -306.33       | 32.65      | -7.34     | 1646646.61     | 14292778.27     | 39°21'33.685"N | 80°58'40.654"W | 735.45            | 272.545         | 8.82           | 8.75                  | -1.86                |  |
| 6377.00  | 42.130          | 164.760     | 6223.02  | -277.88       | 5.02       | -7.27     | 1646654.15     | 14292750.64     | 39°21'33.411"N | 80°58'40.558"W | 727.21            | 270.395         | 6.84           | 6.84                  | 0.07                 |  |
| 6421.00  | 44.400          | 166.160     | 6255.06  | -247.99       | -24.17     | -7.19     | 1646661.71     | 14292721.46     | 39°21'33.123"N | 80°58'40.462"W | 720.04            | 268.076         | 5.60           | 5.16                  | 3.18                 |  |
| 6493.00  | 50.420          | 164.200     | 6303.77  | -195.43       | -75.38     | -7.06     | 1646675.30     | 14292670.28     | 39°21'32.617"N | 80°58'40.289"W | 710.05            | 263.906         | 8.60           | 8.36                  | -2.72                | BH AT Curve <8-1/2"> (6421')(6493'-14222') |
| 6540.00  | 50.260          | 164.010     | 6333.76  | -159.46       | -110.18    | -6.96     | 1646685.20     | 14292635.49     | 39°21'32.273"N | 80°58'40.163"W | 704.79            | 261.006         | 0.46           | -0.34                 | -0.40                |  |
| 6552.00  | 50.920          | 163.550     | 6341.38  | -150.24       | -119.08    | -6.93     | 1646687.79     | 14292626.60     | 39°21'32.185"N | 80°58'40.130"W | 703.69            | 260.257         | 6.25           | 5.50                  | -3.83                |  |
| 6575.00† | 53.063          | 162.779     | 6355.54  | -132.19       | -136.42    | -6.88     | 1646693.04     | 14292609.26     | 39°21'31.907"N | 80°58'40.020"W | 701.68            | 258.789         | 9.69           | 9.32                  | -3.35                | Middlesex: 6575' MD                        |
| 6589.00  | 54.370          | 162.330     | 6363.83  | -120.94       | -147.19    | -6.84     | 1646696.42     | 14292598.50     | 39°21'31.702"N | 80°58'40.063"W | 700.54            | 257.871         | 9.69           | 9.33                  | -3.20                |  |
| 6636.00  | 61.620          | 161.430     | 6388.72  | -81.21        | -185.04    | -6.72     | 1646708.81     | 14292560.66     | 39°21'31.533"N | 80°58'39.862"W | 697.78            | 247.370         | 15.64          | 15.55                 | -1.77                |  |
| 6684.00  | 68.420          | 161.380     | 6408.98  | -37.80        | -226.25    | -6.58     | 1646722.68     | 14292519.47     | 39°21'31.126"N | 80°58'39.686"W | 696.42            | 251.042         | 14.17          | 14.17                 | -0.10                |  |
| 6731.00  | 75.730          | 160.550     | 6423.44  | 6.82          | -268.49    | -6.44     | 1646737.25     | 14292477.27     | 39°21'30.708"N | 80°58'39.500"W | 697.78            | 247.370         | 15.64          | 15.55                 | -1.77                |  |
| 6736.00† | 76.484          | 160.408     | 6424.64  | 11.67         | -273.07    | -6.42     | 1646738.87     | 14292472.67     | 39°21'30.663"N | 80°58'39.480"W | 698.06            | 246.972         | 15.33          | 15.08                 | -2.84                | Burkett: 6736' MD                          |
| 6779.00  | 82.970          | 159.220     | 6432.30  | 53.94         | -312.76    | -6.27     | 1646753.46     | 14292432.99     | 39°21'30.270"N | 80°58'39.294"W | 701.43            | 243.520         | 15.33          | 15.08                 | -2.76                |  |
| 6781.00† | 83.294          | 159.199     | 6432.54  | 55.92         | -314.61    | -6.27     | 1646754.17     | 14292431.14     | 39°21'30.252"N | 80°58'39.285"W | 701.63            | 243.359         | 16.22          | 16.19                 | -1.05                | Tully: 6781' MD                            |
| 6797.00† | 85.884          | 159.031     | 6434.05  | 71.85         | -329.49    | -6.21     | 1646759.84     | 14292416.26     | 39°21'30.105"N | 80°58'39.213"W | 703.40            | 242.088         | 16.22          | 16.19                 | -1.05                | Marcellus POE: 6797' MD                    |
| 6826.00  | 90.580          | 158.730     | 6434.94  | 100.82        | -356.53    | -6.11     | 1646770.28     | 14292389.24     | 39°21'29.838"N | 80°58'39.080"W | 707.43            | 239.737         | 16.22          | 16.19                 | -1.04                |  |
| 6874.00  | 91.480          | 161.430     | 6434.08  | 148.77        | -401.64    | -5.94     | 1646786.62     | 14292344.15     | 39°21'29.392"N | 80°58'38.872"W | 717.60            | 235.965         | 5.93           | 1.87                  | 5.63                 |  |
| 6969.00  | 91.050          | 160.290     | 6431.98  | 243.62        | -491.37    | -5.63     | 1646817.75     | 14292284.46     | 39°21'27.640"N | 80°58'38.009"W | 747.66            | 228.913         | 1.28           | -0.45                 | -1.20                |  |
| 7064.00  | 91.510          | 154.180     | 6429.86  | 338.55        | -578.90    | -5.26     | 1646854.47     | 14292166.96     | 39°21'26.505"N | 80°58'37.395"W | 782.71            | 222.302         | 6.45           | 0.48                  | -6.43                |  |
| 7159.00  | 90.920          | 144.740     | 6427.84  | 432.38        | -660.61    | -4.78     | 1646902.66     | 14292085.28     | 39°21'26.832"N | 80°58'37.395"W | 815.75            | 215.922         | 9.95           | -0.62                 | -9.94                |  |
| 7254.00  | 91.140          | 151.240     | 6426.13  | 525.89        | -741.11    | -4.28     | 1646952.96     | 14292004.81     | 39°21'26.036"N | 80°58'36.755"W | 855.95            | 210.922         | 6.84           | 0.23                  | 6.84                 |  |
| 7349.00  | 92.090          | 162.760     | 6423.44  | 620.88        | -828.38    | -3.91     | 1646989.99     | 14291917.58     | 39°21'25.174"N | 80°58'36.283"W | 916.11            | 205.280         | 12.16          | 1.00                  | 12.13                |  |
| 7443.00  | 91.790          | 161.650     | 6420.26  | 714.36        | -917.83    | -3.62     | 1647018.69     | 14291828.17     | 39°21'24.290"N | 80°58'35.918"W | 986.82            | 201.552         | 1.22           | -0.32                 | -1.18                |  |
| 7538.00  | 91.760          | 155.580     | 6417.32  | 809.27        | -1006.20   | -3.27     | 1647053.28     | 14291739.83     | 39°21'23.416"N | 80°58'35.478"W | 1058.28           | 198.050         | 6.39           | -0.03                 | -6.39                |  |
| 7633.00  | 90.620          | 155.070     | 6415.34  | 904.15        | -1092.51   | -2.88     | 1647092.92     | 14291653.56     | 39°21'22.563"N | 80°58'34.973"W | 1129.89           | 194.780         | 1.31           | -1.20                 | -0.54                |  |
| 7729.00  | 90.890          | 156.420     | 6414.08  | 1000.07       | -1180.02   | -2.48     | 1647132.33     | 14291566.08     | 39°21'21.698"N | 80°58'34.472"W | 1205.97           | 191.907         | 1.43           | 0.28                  | 1.41                 |  |
| 7824.00  | 90.800          | 154.170     | 6412.68  | 1094.95       | -1266.31   | -2.09     | 1647172.01     | 14291479.82     | 39°21'20.845"N | 80°58'33.967"W | 1283.46           | 189.377         | 2.37           | -0.09                 | -2.37                |  |
| 7919.00  | 90.150          | 151.970     | 6411.89  | 1189.60       | -1351.00   | -1.66     | 1647215.02     | 14291395.17     | 39°21'20.008"N | 80°58'33.419"W | 1361.17           | 187.009         | 2.41           | -0.68                 | -2.32                |  |
| 8014.00  | 89.660          | 156.300     | 6412.05  | 1284.37       | -1436.46   | -1.24     | 1647256.43     | 14291309.74     | 39°21'19.163"N | 80°58'32.892"W | 1441.86           | 184.960         | 4.59           | -0.52                 | 4.56                 |  |
| 8108.00  | 88.400          | 160.760     | 6413.64  | 1378.32       | -1523.90   | -0.90     | 1647290.81     | 14291222.33     | 39°21'18.299"N | 80°58'32.454"W | 1526.58           | 183.390         | 4.93           | -1.34                 | 4.74                 |  |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Slot #05              |
|------------------------------|-----------------------|
| ANTERO RESOURCES CORPORATION | Hopper Unit 2H        |
| Area                         | Well                  |
| Tyler County, WV             | Hopper Unit 2H AWP    |
| Field                        | Wellbore              |
| Tyler                        |                       |
| Facility                     | Ritchie Petroleum Pad |

## WELLPATH DATA (186 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 (ft/100ft) | Build Rate (ft/100ft) | Turn Rate (ft/100ft) | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|----------------|-----------------------|----------------------|----------|
| 8203.00  | 88.180          | 161.400     | 6416.48  | 1473.14        | -1613.73   | -59.48    | 1647321.59        | 14291132.54        | 39°21'17.411"N | 80°58'32.063"W | 1614.83           | 182.111         | 0.71           | -0.23                 | 0.67                 |          |
| 8299.00  | 88.240          | 161.360     | 6419.47  | 1568.92        | -1704.66   | -28.85    | 1647352.21        | 14291041.65        | 39°21'16.512"N | 80°58'31.673"W | 1704.91           | 180.969         | 0.08           | 0.06                  | -0.04                |          |
| 8393.00  | 88.180          | 162.460     | 6422.41  | 1662.64        | -1793.97   | 0.33      | 1647381.38        | 14290952.38        | 39°21'15.629"N | 80°58'31.302"W | 1793.97           | 179.990         | 1.17           | -0.06                 | 1.17                 |          |
| 8488.00  | 88.250          | 163.180     | 6425.37  | 1757.25        | -1884.69   | 28.37     | 1647409.41        | 14290861.70        | 39°21'14.732"N | 80°58'30.945"W | 1884.90           | 179.137         | 0.76           | 0.07                  | 0.76                 |          |
| 8583.00  | 88.270          | 163.420     | 6428.30  | 1851.79        | -1975.64   | 55.66     | 1647436.69        | 14290770.78        | 39°21'13.833"N | 80°58'30.598"W | 1976.42           | 178.386         | 0.26           | -0.04                 | 0.25                 |          |
| 8679.00  | 88.340          | 163.650     | 6431.19  | 1947.28        | -2067.66   | 82.86     | 1647463.87        | 14290678.80        | 39°21'12.924"N | 80°58'30.252"W | 2069.32           | 177.705         | 0.28           | 0.14                  | 0.24                 |          |
| 8773.00  | 88.280          | 161.740     | 6433.97  | 2040.91        | -2157.36   | 110.80    | 1647491.81        | 14290589.13        | 39°21'12.037"N | 80°58'29.897"W | 2160.20           | 177.060         | 2.03           | -0.06                 | -2.03                |          |
| 8868.00  | 89.380          | 160.110     | 6435.91  | 2135.76        | -2247.12   | 141.84    | 1647522.84        | 14290499.41        | 39°21'11.150"N | 80°58'29.502"W | 2251.59           | 176.388         | 2.07           | 1.16                  | -1.72                |          |
| 8963.00  | 89.720          | 155.510     | 6436.65  | 2230.73        | -2335.06   | 177.71    | 1647558.69        | 14290411.51        | 39°21'10.281"N | 80°58'28.477"W | 2341.81           | 175.648         | 4.86           | 0.36                  | -4.84                |          |
| 9058.00  | 89.020          | 148.280     | 6437.70  | 2325.14        | -2418.80   | 222.43    | 1647603.39        | 14290327.80        | 39°21'09.453"N | 80°58'28.477"W | 2429.00           | 174.746         | 7.65           | -0.74                 | -7.61                |          |
| 9153.00  | 87.840          | 149.930     | 6440.30  | 2418.97        | -2500.28   | 271.19    | 1647652.13        | 14290246.35        | 39°21'08.647"N | 80°58'27.856"W | 2514.95           | 173.810         | 2.13           | -1.24                 | 1.74                 |          |
| 9249.00  | 90.460          | 153.010     | 6441.73  | 2514.33        | -2584.60   | 317.03    | 1647697.95        | 14290162.07        | 39°21'07.814"N | 80°58'27.273"W | 2603.97           | 173.007         | 4.21           | 2.73                  | 3.21                 |          |
| 9344.00  | 89.570          | 151.790     | 6441.70  | 2608.89        | -2668.78   | 361.04    | 1647741.94        | 14290077.91        | 39°21'06.982"N | 80°58'26.713"W | 2693.09           | 172.296         | 1.59           | -0.94                 | -1.28                |          |
| 9439.00  | 90.740          | 152.210     | 6441.44  | 2703.38        | -2752.66   | 405.64    | 1647786.52        | 14289994.07        | 39°21'06.153"N | 80°58'26.146"W | 2782.39           | 171.617         | 1.31           | 1.23                  | 0.44                 |          |
| 9533.00  | 88.800          | 149.080     | 6441.82  | 2796.60        | -2834.58   | 451.71    | 1647832.58        | 14289912.19        | 39°21'05.343"N | 80°58'25.560"W | 2870.34           | 170.946         | 3.92           | -2.06                 | -3.33                |          |
| 9628.00  | 88.430          | 155.290     | 6444.12  | 2891.05        | -2918.54   | 496.00    | 1647876.85        | 14289828.26        | 39°21'04.513"N | 80°58'24.996"W | 2960.38           | 170.355         | 6.55           | -0.39                 | 6.54                 |          |
| 9723.00  | 89.110          | 160.990     | 6446.16  | 2985.99        | -3006.65   | 531.35    | 1647912.19        | 14289740.19        | 39°21'03.642"N | 80°58'24.547"W | 3053.24           | 169.978         | 6.04           | 0.72                  | 6.00                 |          |
| 9818.00  | 90.740          | 163.820     | 6446.28  | 3080.68        | -3097.19   | 560.07    | 1647940.89        | 14289649.68        | 39°21'02.747"N | 80°58'24.181"W | 3147.42           | 169.750         | 3.44           | 1.72                  | 2.98                 |          |
| 9914.00  | 91.080          | 165.150     | 6444.76  | 3176.04        | -3189.68   | 585.74    | 1647966.56        | 14289557.23        | 39°21'01.833"N | 80°58'23.855"W | 3243.01           | 169.594         | 1.43           | 0.35                  | 1.39                 |          |
| 10009.00 | 89.970          | 161.780     | 6443.89  | 3270.58        | -3280.73   | 612.77    | 1647993.58        | 14289466.21        | 39°21'00.933"N | 80°58'23.511"W | 3337.47           | 169.420         | 3.73           | -1.17                 | -3.55                |          |
| 10104.00 | 89.690          | 162.740     | 6444.17  | 3365.31        | -3371.21   | 641.72    | 1648022.51        | 14289375.77        | 39°21'00.038"N | 80°58'23.143"W | 3431.75           | 169.223         | 1.05           | -0.29                 | 1.01                 |          |
| 10198.00 | 89.910          | 160.490     | 6444.50  | 3459.11        | -3460.41   | 671.37    | 1648052.14        | 14289286.61        | 39°20'59.157"N | 80°58'22.766"W | 3524.93           | 169.020         | 2.41           | 0.23                  | -2.39                |          |
| 10293.00 | 92.060          | 160.630     | 6442.87  | 3553.99        | -3549.97   | 702.98    | 1648083.74        | 14289197.08        | 39°20'58.271"N | 80°58'22.364"W | 3618.91           | 168.799         | 2.27           | 2.26                  | 0.15                 |          |
| 10389.00 | 89.750          | 163.610     | 6441.35  | 3649.70        | -3641.31   | 732.44    | 1648113.20        | 14289105.78        | 39°20'57.369"N | 80°58'21.989"W | 3714.24           | 168.627         | 3.93           | -2.41                 | 3.10                 |          |
| 10483.00 | 89.880          | 166.690     | 6441.65  | 3742.94        | -3732.16   | 766.53    | 1648137.27        | 14289014.97        | 39°20'56.471"N | 80°58'21.683"W | 3808.06           | 168.541         | 3.28           | 0.14                  | 3.28                 |          |
| 10578.00 | 92.520          | 166.150     | 6439.66  | 3836.87        | -3824.47   | 778.83    | 1648159.56        | 14288922.69        | 39°20'55.581"N | 80°58'21.399"W | 3902.97           | 168.489         | 2.84           | 2.78                  | -0.57                |          |
| 10674.00 | 90.030          | 162.320     | 6437.53  | 3932.24        | -3916.82   | 804.90    | 1648185.62        | 14288830.39        | 39°20'54.645"N | 80°58'21.068"W | 3998.66           | 168.387         | 4.76           | -2.59                 | -3.99                |          |
| 10769.00 | 90.180          | 158.130     | 6437.35  | 4027.15        | -4006.19   | 837.03    | 1648217.75        | 14288741.04        | 39°20'53.762"N | 80°58'20.659"W | 4092.70           | 168.199         | 4.41           | 0.16                  | -4.41                |          |
| 10865.00 | 90.310          | 152.780     | 6436.94  | 4123.02        | -4093.49   | 876.90    | 1648257.59        | 14288653.79        | 39°20'52.899"N | 80°58'20.152"W | 4186.36           | 167.909         | 5.57           | 0.14                  | -5.57                |          |
| 10959.00 | 89.780          | 152.740     | 6436.87  | 4216.64        | -4177.06   | 919.92    | 1648300.60        | 14288570.25        | 39°20'52.073"N | 80°58'19.605"W | 4277.16           | 167.580         | 0.57           | -0.56                 | -0.04                |          |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Slot     | Slot #05           |
|------------------------------|----------|--------------------|
| ANTERO RESOURCES CORPORATION | Well     | Hopper Unit 2H     |
| Tyler County, WV             | Wellbore | Hopper Unit 2H AWP |
| Tyler                        |          |                    |
| Ritchie Petroleum Pad        |          |                    |

## WELLPATH DATA (186 stations)

| MD (ft)  | Inclination (°) | Azimuth (°) | TVD (ft) | Vert Sect (ft) | North (ft) | East (ft) | Grid East (ft) | Grid North (ft) | Latitude       | Longitude      | Closure Dist (ft) | Closure Dir (°) | DLS (F/100ft) | Build Rate (F/100ft) | Turn Rate (F/100ft) | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|----------------|-----------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|----------|
| 11055.00 | 89.880          | 157.890     | 6437.15  | 4312.51        | -4264.26   | 960.00    | 1648340.66     | 14288483.08     | 39°20'51.211"N | 80°58'19.095"W | 4370.98           | 167.313         | 5.37          | 0.10                 | 5.36                |          |
| 11150.00 | 90.000          | 162.810     | 6437.25  | 4407.39        | -4353.70   | 991.94    | 1648372.59     | 14288393.68     | 39°20'50.327"N | 80°58'18.689"W | 4465.27           | 167.165         | 5.18          | 0.13                 | 5.18                |          |
| 11245.00 | 90.880          | 160.510     | 6436.69  | 4502.18        | -4443.86   | 1021.83   | 1648402.47     | 14288303.55     | 39°20'49.436"N | 80°58'18.309"W | 4559.83           | 167.050         | 2.52          | 0.72                 | -2.42               |          |
| 11341.00 | 89.940          | 153.610     | 6436.17  | 4598.11        | -4532.22   | 1059.22   | 1648439.84     | 14288215.23     | 39°20'48.562"N | 80°58'17.833"W | 4654.35           | 166.846         | 7.23          | -0.77                | -7.19               |          |
| 11436.00 | 89.750          | 151.940     | 6436.43  | 4692.72        | -4616.69   | 1102.68   | 1648483.29     | 14288130.79     | 39°20'47.727"N | 80°58'17.280"W | 4746.55           | 166.567         | 1.77          | -0.20                | -1.76               |          |
| 11532.00 | 89.880          | 156.000     | 6436.74  | 4788.47        | -4702.93   | 1144.80   | 1648525.39     | 14288044.58     | 39°20'46.875"N | 80°58'16.744"W | 4840.26           | 166.319         | 4.23          | 0.14                 | 4.23                |          |
| 11627.00 | 89.850          | 160.700     | 6436.96  | 4883.44        | -4791.21   | 1179.84   | 1648560.41     | 14287956.35     | 39°20'46.002"N | 80°58'16.299"W | 4934.34           | 166.166         | 4.95          | -0.03                | 4.95                |          |
| 11722.00 | 89.880          | 162.150     | 6437.18  | 4978.26        | -4881.25   | 1210.10   | 1648590.66     | 14287866.33     | 39°20'45.112"N | 80°58'15.914"W | 5029.01           | 166.077         | 1.53          | 0.03                 | 1.53                |          |
| 11817.00 | 90.620          | 159.460     | 6436.77  | 5073.13        | -4970.96   | 1241.33   | 1648621.88     | 14287776.66     | 39°20'44.225"N | 80°58'15.517"W | 5123.61           | 165.979         | 2.94          | 0.78                 | -2.83               |          |
| 11912.00 | 90.000          | 154.750     | 6436.26  | 5168.10        | -5058.45   | 1278.28   | 1648658.82     | 14287689.21     | 39°20'43.360"N | 80°58'15.047"W | 5217.46           | 165.818         | 5.00          | -0.65                | -4.96               |          |
| 12007.00 | 89.880          | 153.060     | 6436.35  | 5262.86        | -5143.77   | 1320.06   | 1648700.58     | 14287603.93     | 39°20'42.517"N | 80°58'14.515"W | 5310.45           | 165.607         | 1.78          | -0.13                | -1.78               |          |
| 12102.00 | 89.750          | 149.800     | 6436.66  | 5357.23        | -5227.19   | 1365.49   | 1648745.99     | 14287520.54     | 39°20'41.692"N | 80°58'13.937"W | 5402.60           | 165.360         | 3.43          | -0.14                | -3.43               |          |
| 12197.00 | 87.630          | 153.630     | 6438.83  | 5451.63        | -5310.80   | 1410.49   | 1648790.97     | 14287436.96     | 39°20'40.866"N | 80°58'13.365"W | 5494.91           | 165.126         | 4.61          | -2.23                | 4.03                |          |
| 12292.00 | 89.970          | 159.310     | 6440.88  | 5546.53        | -5397.84   | 1448.38   | 1648828.85     | 14287349.96     | 39°20'40.006"N | 80°58'12.883"W | 5588.78           | 164.980         | 6.44          | 2.40                 | 5.98                |          |
| 12387.00 | 89.970          | 160.890     | 6440.97  | 5641.46        | -5487.16   | 1480.72   | 1648861.17     | 14287260.67     | 39°20'39.123"N | 80°58'12.472"W | 5683.44           | 164.898         | 1.66          | 0.06                 | 1.66                |          |
| 12482.00 | 90.030          | 159.530     | 6440.97  | 5736.38        | -5576.55   | 1512.88   | 1648893.32     | 14287171.32     | 39°20'38.239"N | 80°58'12.063"W | 5778.13           | 164.821         | 1.43          | 0.06                 | -1.43               |          |
| 12577.00 | 90.030          | 158.900     | 6440.92  | 5831.36        | -5665.37   | 1546.59   | 1648927.02     | 14287082.53     | 39°20'37.361"N | 80°58'11.634"W | 5872.88           | 164.731         | 0.66          | 0.00                 | -0.66               |          |
| 12672.00 | 89.970          | 157.550     | 6440.92  | 5926.35        | -5753.59   | 1581.83   | 1648962.25     | 14286994.35     | 39°20'36.489"N | 80°58'11.186"W | 5967.07           | 164.627         | 1.42          | -0.06                | -1.42               |          |
| 12767.00 | 89.940          | 157.250     | 6441.00  | 6021.35        | -5841.29   | 1618.34   | 1648998.74     | 14286906.68     | 39°20'35.622"N | 80°58'10.722"W | 6061.33           | 164.514         | 0.32          | -0.03                | -0.32               |          |
| 12862.00 | 89.940          | 157.260     | 6441.10  | 6116.34        | -5928.91   | 1655.07   | 1649035.46     | 14286819.10     | 39°20'34.756"N | 80°58'10.255"W | 6155.58           | 164.403         | 0.01          | 0.00                 | 0.01                |          |
| 12957.00 | 89.970          | 156.490     | 6441.17  | 6211.33        | -6016.27   | 1692.38   | 1649072.75     | 14286731.77     | 39°20'33.892"N | 80°58'09.780"W | 6249.77           | 164.289         | 0.81          | 0.03                 | -0.81               |          |
| 13053.00 | 89.940          | 157.930     | 6441.25  | 6307.32        | -6104.77   | 1729.57   | 1649109.92     | 14286643.31     | 39°20'33.018"N | 80°58'09.307"W | 6345.05           | 164.182         | 1.50          | -0.03                | 1.50                |          |
| 13148.00 | 90.090          | 158.200     | 6441.22  | 6402.32        | -6192.90   | 1765.06   | 1649145.39     | 14286555.22     | 39°20'32.146"N | 80°58'08.856"W | 6439.52           | 164.092         | 0.33          | 0.16                 | 0.28                |          |
| 13243.00 | 90.000          | 156.500     | 6441.15  | 6497.31        | -6280.57   | 1801.64   | 1649181.96     | 14286467.58     | 39°20'31.280"N | 80°58'08.391"W | 6533.87           | 163.994         | 1.79          | -0.09                | -1.79               |          |
| 13339.00 | 89.940          | 157.190     | 6441.20  | 6593.29        | -6368.83   | 1839.99   | 1649219.70     | 14286379.35     | 39°20'30.407"N | 80°58'07.910"W | 6629.13           | 163.891         | 0.72          | -0.06                | 0.72                |          |
| 13434.00 | 89.970          | 158.770     | 6441.32  | 6688.29        | -6456.90   | 1875.00   | 1649255.30     | 14286291.32     | 39°20'29.537"N | 80°58'07.458"W | 6723.63           | 163.807         | 1.66          | -0.03                | 1.66                |          |
| 13530.00 | 90.000          | 160.420     | 6441.40  | 6784.24        | -6546.87   | 1908.47   | 1649288.76     | 14286201.38     | 39°20'28.647"N | 80°58'07.032"W | 6819.37           | 163.748         | 1.72          | 0.09                 | 1.72                |          |
| 13625.00 | 90.060          | 160.910     | 6441.35  | 6879.13        | -6636.51   | 1939.93   | 1649320.20     | 14286111.78     | 39°20'27.761"N | 80°58'06.632"W | 6914.24           | 163.706         | 0.52          | 0.06                 | 0.52                |          |
| 13720.00 | 89.910          | 161.000     | 6441.37  | 6974.00        | -6726.31   | 1970.93   | 1649351.18     | 14286022.01     | 39°20'26.874"N | 80°58'06.238"W | 7009.13           | 163.668         | 0.18          | -0.16                | 0.09                |          |
| 13816.00 | 90.030          | 161.880     | 6441.42  | 7069.82        | -6817.32   | 2001.48   | 1649381.73     | 14285931.05     | 39°20'25.974"N | 80°58'05.849"W | 7105.05           | 163.638         | 0.93          | 0.12                 | 0.92                |          |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'  
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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Area             | Field | Facility              | Slot     | Slot #05           |
|------------------------------|------------------|-------|-----------------------|----------|--------------------|
| ANTERO RESOURCES CORPORATION | Tyler County, WV | Tyler | Ritchie Petroleum Pad | Well     | Hopper Unit 2H     |
|                              |                  |       |                       | Wellbore | Hopper Unit 2H AWB |

## WELLPATH DATA (186 stations)

| MD [ft]  | Inclination [°] | Azimuth [°] | TVD [ft] | Vert. Sect [ft] | North [ft] | East [ft] | Grid East [ft] | Grid North [ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [ft/100ft] | Build Rate [ft/100ft] | Turn Rate [ft/100ft] | Comments                   |
|----------|-----------------|-------------|----------|-----------------|------------|-----------|----------------|-----------------|----------------|----------------|-------------------|-----------------|----------------|-----------------------|----------------------|----------------------------|
| 13911.00 | 90.150          | 159.160     | 6441.28  | 7.164.71        | -6906.87   | 2033.16   | 16494.13.39    | 14285641.53     | 39°20'25.089"N | 80°58'05.447"W | 7199.91           | 163.597         | 2.87           | 0.13                  | -2.86                |                            |
| 14007.00 | 89.850          | 154.940     | 6441.28  | 7260.68         | -6995.26   | 2070.59   | 1649450.80     | 14285753.18     | 39°20'24.215"N | 80°58'04.971"W | 7295.27           | 163.511         | 4.41           | -0.31                 | -4.40                |                            |
| 14102.00 | 89.850          | 155.930     | 6441.52  | 7355.59         | -7081.66   | 2110.08   | 1649490.28     | 14285666.82     | 39°20'23.361"N | 80°58'04.468"W | 7389.34           | 163.408         | 1.04           | 0.00                  | 1.04                 |                            |
| 14198.00 | 89.850          | 158.130     | 6441.78  | 7451.57         | -7170.04   | 2147.54   | 1649527.73     | 14285578.47     | 39°20'22.487"N | 80°58'03.992"W | 7484.74           | 163.326         | 2.29           | 0.00                  | 2.29                 |                            |
| 14222.00 | 89.940          | 159.740     | 6441.82  | 7475.57         | -7192.43   | 2156.17   | 1649536.35     | 14285556.08     | 39°20'22.266"N | 80°58'03.882"W | 7508.67           | 163.312         | 6.72           | 0.38                  | 6.71                 |                            |
| 14246.00 | 89.940          | 159.740     | 6441.84  | 7499.56         | -7214.95   | 2164.48   | 1649544.66     | 14285533.58     | 39°20'22.043"N | 80°58'03.777"W | 7532.63           | 163.301         | 0.00           | 0.00                  | 0.00                 | Projected MD at TD: 14246' |

## HOLE & CASING SECTIONS - Ref Wellbore: Hopper Unit 2H AWB Ref Wellpath: Hopper Unit 2H AWP Proj: 14246'

| 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              | 32.00         | 112.00      | 80.00         | 32.00          | 112.00       | 0.00           | 0.00           | -0.24        | -0.42        |
| 17.5in Open Hole            | 112.00        | 376.90      | 264.90        | 112.00         | 376.88       | 0.00           | -0.42          | -1.58        | -3.06        |
| 13.375in Casing Surface     | 32.00         | 376.90      | 344.90        | 32.00          | 376.88       | 0.00           | 0.00           | -1.58        | -3.06        |
| 12.25in Open Hole           | 376.90        | 2559.00     | 2182.10       | 376.88         | 2557.31      | -1.58          | -3.06          | -16.03       | -42.54       |
| 9.625in Casing Intermediate | 32.00         | 2559.00     | 2527.00       | 32.00          | 2557.31      | 0.00           | 0.00           | -16.03       | -42.54       |
| 8.75in Open Hole            | 2559.00       | 6508.00     | 3949.00       | 2557.31        | 6313.33      | -16.03         | -42.54         | -86.50       | -702.88      |
| 8.5in Open Hole             | 6508.00       | 14246.00    | 7738.00       | 6313.33        | 6441.84      | -86.50         | -702.88        | -7214.95     | -2164.48     |
| 5.5in Casing Production     | 32.00         | 14246.00    | 14214.00      | 32.00          | 6441.84      | 0.00           | 0.00           | -7214.95     | -2164.48     |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'

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## REFERENCE WELLPATH IDENTIFICATION

| Operator                     | Slot     | Slot #05           |
|------------------------------|----------|--------------------|
| ANTERO RESOURCES CORPORATION | Well     | Hopper Unit 2H     |
| Tyler County, WV             | Wellbore | Hopper Unit 2H AWB |
| Tyler                        |          |                    |
| Ritchie Petroleum Pad        |          |                    |

## TARGETS

| Name                       | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Shape |
|----------------------------|----------|------------|-----------|-------------------|--------------------|----------------|----------------|-------|
| Hopper Unit 2H POE - Rev-2 | 6418.00  | -264.40    | -643.69   | 1646737.62        | 14292481.33        | 39°21'30.748"N | 80°58'39.496"W | point |
| Hopper Unit 2H BHL - Rev-2 | 6454.00  | -7267.34   | 2195.66   | 1649575.83        | 14285481.21        | 39°20'21.526"N | 80°58'03.380"W | point |
| Hopper Unit 2H LP - Rev-1  | 6454.00  | -472.19    | -559.44   | 1646821.83        | 14292273.63        | 39°21'28.695"N | 80°58'38.424"W | point |

## WELLPATH COMPOSITION - Ref Wellbore: Hopper Unit 2H AWB Ref Wellpath: Hopper Unit 2H AWP Proj: 14246'

| Start MD [ft] | End MD [ft] | Positional Uncertainty Model                | Log Name/Comment                                    | Wellbore           |
|---------------|-------------|---|---|--------------------|
| 32.00         | 366.80      | Gyrodata standard - Drop gyro or Multi-shot | 01_Gyrodata MS Gyro <17-1/2">(60'349.80)            | Hopper Unit 2H AWB |
| 366.80        | 674.00      | Gyrodata standard - Drop gyro or Multi-shot | 02_Gyrodata MS Gyro <12-1/4">(349.80)(386'-657')    | Hopper Unit 2H AWB |
| 674.00        | 2486.00     | ISCWSA MWD, Rev. 4 (Standard)               | 03_Directional ONE MWD <12-1/4">(657')(713'-2469')  | Hopper Unit 2H AWB |
| 2486.00       | 6421.00     | ISCWSA MWD, Rev. 4 (Standard)               | 04_Directional ONE MWD <8-3/4">(2469')(2565'-6404') | Hopper Unit 2H AWB |
| 6421.00       | 14222.00    | BHI AutoTrak Curve (Short)                  | 05_BHI AT Curve <8-1/2">(6421')(6493'-14222')       | Hopper Unit 2H AWB |
| 14222.00      | 14246.00    | Blind Drilling (std)                        | Projection to bit                                   | Hopper Unit 2H AWB |





# Actual Wellpath Report

Hopper Unit 2H AWP Proj: 14246'  
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| REFERENCE WELLPATH IDENTIFICATION |                              |          |                    |
|-----------------------------------|------------------------------|----------|--------------------|
| Operator                          | ANTERO RESOURCES CORPORATION | Slot     | Slot #05           |
| Area                              | Tyler County, WV             | Well     | Hopper Unit 2H     |
| Field                             | Tyler                        | Wellbore | Hopper Unit 2H AWB |
| Facility                          | Ritchie Petroleum Pad        |          |                    |

| COMMENTS   |
|--|
| <p>Wellpath general comments</p> <p>API: 47-095-02389-0000<br/>           BHI Job #: 8789724<br/>           Rig: Frontier 32<br/>           Duration: 09/29/2017-10/02/2017<br/>           Gyrodatta MS Gyro &lt;17-1/2"&gt; (50'-349.80')<br/>           Gyrodatta MS Gyro &lt;12-1/4"&gt; (349.80')(386'-657')<br/>           Directional ONE MWD &lt;12-1/4"&gt; (657')(713'-2469')<br/>           Directional ONE MWD &lt;8-3/4"&gt; (2469')(2565'-6404')<br/>           BHI AT Curve &lt;8-1/2"&gt; (6421')(6493'-14222')<br/>           Middlesex: 6575' MD<br/>           Burkett: 6736' MD<br/>           Tully: 6781' MD<br/>           Marcellus POE: 6797' MD<br/>           Projected MD at TD: 14246'</p> |