

# COLUMNAR SECTION SHEET

GENERALIZED SECTION FOR MAYNARDVILLE QUADRANGLE NORTHWEST OF WALLENS RIDGE.  
SCALE: 1 INCH = 1000 FEET.

| PERIOD.       | FORMATION NAME.         | SYMBOL. | COLUMNAR SECTION. | THICKNESS IN FEET. | CHARACTER OF ROCKS.   | CHARACTER OF TOPOGRAPHY AND SOILS.  |
|---------------|-------------------------|---------|-------------------|--------------------|---|---|
| CARBONIFEROUS | Briceville shale.       | Cbv     |                   | 200+               | Black, bluish-gray, and gray, argillaceous shale with small beds of sandy shale and sandstone, and thick coal beds. | Flat valleys with small hills and spurs. Thin clay soil with sandy wash.  |
|               | Lee conglomerate.       | Cle     |                   | 1000-1100          | Massive sandstone, in part cross bedded, with conglomerate, a few thin shale beds, and thin coal seams.             | Sharp, rugged ridges and mountains with many cliffs and ledges. Thin, sandy and rocky soil with much sandstone waste. |
|               | Pennington shale.       | Cpn     |                   | 150-220            | Calcareous shale, sandstone, and limestone.   | Small hollows. Sandy clay soil.   |
|               | Newman limestone.       | Cn      |                   | 300-600            | Massive and cherty, blue limestones with a few shale beds.  | Rolling ground, small ridges, and a few cliffs on the mountain slopes. Cherty, red clay soil.                         |
| DEV.          | Chattanooga shale.      | Dc      |                   | 100-400            | Black, carbonaceous shale.  | Narrow depressions.   |
|               | Rockwood formation.     | Sr      |                   | 400-700            | Red and brown, calcareous and sandy shales with local beds of white sandstone and fossiliferous red hematite.       | Valleys and sharp, even-topped ridges. Thin, sandy soil.  |
|               | Bays formation.         | Sb      |                   | 150-250            | Red, argillaceous and sandy limestone.  | Valleys and low slopes. Thin, sandy clay soil.  |
| SILURIAN      | Chickamauga limestone.  | Sc      |                   | 1500-2000          | Blue and gray limestone, argillaceous limestone, flaggy limestone, and calcareous shale.                            | Smooth, open valleys. Red and yellow clay soil.   |
|               |                         |         |                   | 2800-3500          | Blue and gray, massive limestone with a few nodules of black chert.   | Low, rounded hills. Red, clayey soil with chert fragments.  |
|               |                         |         |                   | 2800-3500          | Magnesian limestone, white, gray, light blue, and dark blue, with nodules of chert.                                 | Broad, cherty ridges and high, rounded hills. Deep, red clay soil with many fragments of chert and sandstone.         |
| CAMBRIAN      |                         |         |                   | 2800-3500          | Beds of white, calcareous sandstone and sandy marble.   |   |
|               | Conasauga shale.        | Ec      |                   | 600-750            | Yellow, red, and brown, calcareous shale with thin beds of limestone.   | Valleys, and slopes of Knox dolomite ridges. Thin, yellow clay soil.  |
|               | Rome formation.         | Er      |                   | 450-600            | Bright-red, green, and brown, sandy shale with layers of thin sandstone.  | Slopes of sandstone ridges. Thin, brown clay soil with much sandstone wash.   |
|               | Rome sandstone lentils. | Ers     |                   | 1000+              | Red, yellow, and brown, sandy shale and massive sandstone with layers of blue and sandy limestones.                 | Sharp ridges with notches and gaps. Thin, sandy soil with ledges and fragments of sandstone.                          |

NAMES OF FORMATIONS.

| PERIOD.  | ARTHUR KEITH: BRICEVILLE FOLIO, U. S. GEOLOGICAL SURVEY, 1896. | NAMES AND SYMBOLS USED IN THIS FOLIO. | ARTHUR KEITH: MORRISTOWN FOLIO, U. S. GEOLOGICAL SURVEY, 1896. | SAFFORD: GEOLOGY OF TENNESSEE, 1909.                            |
|----------|--|---------------------------------------|--|---|
| CARB.    | Briceville shale.  | Briceville shale.                     | Cbv  |   |
|          | Lee conglomerate.  | Lee conglomerate.                     | Cle  |   |
|          | Pennington shale.  | Pennington shale.                     | Cpn  | Pennington shale.   |
| DEV.     | Newman limestone.  | Newman limestone.                     | Cn   | Newman limestone. Mountain limestone.                           |
|          | Grainger shale.  | Grainger shale.                       | Dg   | Grainger shale. Siliceous group.                                |
| SILURIAN | Chattanooga shale.   | Chattanooga shale.                    | Dc   | Chattanooga shale. Black shale.                                 |
|          | Rockwood formation.  | Rockwood formation.                   | Sr   | Rockwood formation. Dyestone group.                             |
|          |  | Clinch sandstone.                     | Sc   | Clinch sandstone. Clinch Mountain sandstone.                    |
|          | Bays limestone.  | Bays formation.                       | Sb   | Bays sandstone.   |
|          |  | Sevier shale.                         | Ssv  | Sevier shale.   |
|          |  | Tellico sandstone.                    | St   | Trenton and Nashville series.                                   |
| SILURIAN | Chickamauga limestone.   |                                       |  | Athens shale.   |
|          |  | Moccasin limestone.                   | Smc  | Moccasin limestone.   |
|          |  | Chickamauga limestone.                | Sc   | Chickamauga limestone. Trenton, Lebanon, or Maclurea limestone. |
|          |  | Holston marble.                       | Shl  | Holston marble.   |
| CAMBRIAN | Knox dolomite.   | Knox dolomite.                        | CSk  | Knox dolomite.  |
|          |  | Nolichucky shale.                     | En   | Nolichucky shale.   |
|          |  | Maryville limestone.                  | Em   | Maryville limestone.  |
|          |  | Rogersville shale.                    | Erg  | Rogersville shale.  |
|          |  | Rutledge limestone.                   | Ert  | Rutledge limestone.   |
| CAMBRIAN | Rome formation.  | Rome formation.                       | Er   | Rome formation.   |
|          | Rome sandstone lentil.   | Rome sandstone lentils.               | Ers  | Rome sandstone lentil. Knox sandstone.                          |

GENERALIZED SECTION FOR MAYNARDVILLE QUADRANGLE SOUTHEAST OF WALLENS RIDGE.  
SCALE: 1 INCH = 1000 FEET.

| PERIOD.  | FORMATION NAME.                          | SYMBOL.  | COLUMNAR SECTION. | THICKNESS IN FEET. | CHARACTER OF ROCKS.   | CHARACTER OF TOPOGRAPHY AND SOILS.   |
|----------|--|----------|-------------------|--------------------|---|--|
| CARB.    | Newman limestone.                        | Cn       |                   | 300+               | Massive and cherty, blue limestone.   | Flat, open valleys. Cherty, red clay soil.   |
| DEVONIAN | Grainger shale.                          | Dg       |                   | 900-1000           | Greenish-gray and bluish-gray, sandy shale and sandstone.   | High ridges and lines of knobs with many water gaps. Thin, sandy soil.                                     |
|          | Chattanooga shale.                       | Dc       |                   | 400-450            | Black, carbonaceous shale.  | Deep, narrow valleys. Yellow clay soil.  |
| SILURIAN | Rockwood formation.                      | Sr       |                   | 0-300+             | Red, yellow, and brown, sandy shales and thin sandstones with thin beds of red hematite.  | Sharp, even-topped ridges. Thin, sandy soil.   |
|          | Clinch sandstone.                        | Sc       |                   | 150-500            | Massive, white sandstone.   | High, sharp mountains.   |
|          | Bays formation.                          | Sb       |                   | 200-500            | Red, calcareous and argillaceous sandstones.  | Steep slopes of Clinch sandstone mountains.  |
|          | Sevier shale.                            | Ssv      |                   | 1100-1300          | Light-blue, sandy and calcareous shales with beds of shaly limestone.   | Irregular ridges and steep knobs. Yellow and red clay soil.  |
|          | Moccasin limestone.                      | Smc      |                   | 600-800            | Red and gray, flaggy limestone and calcareous shale.  | Low ground with irregular ridges and knobs. Red and yellow clay soil.                                      |
|          | Chickamauga limestone. (Holston marble.) | Sc (Shl) |                   | 500-1800           | Blue and gray limestone, argillaceous limestone, flaggy limestone, and calcareous shale. Variegated marble, red, brown, gray, and pink. | Smooth, open valleys. Red and yellow clay soil.  |
| CAMBRIAN |  |          |                   | 2800-3500          | Magnesian limestone, light blue, dark blue, and white, with nodules of chert.   | Broad ridges and irregular, rounded hills. Deep, red clay soil with many fragments of chert and sandstone. |
|          |  |          |                   | 2800-3500          | Beds of white, calcareous sandstone and sandy marble.   |  |
|          | Nolichucky shale.                        | En       |                   | 500-600            | Yellow, red, and brown, calcareous shale with a few limestone beds.   | Narrow valleys, and steep slopes of Knox dolomite ridges. Thin, shaly soil.                                |
|          | Maryville limestone.                     | Em       |                   | 300-600            | Massive, blue limestone, becoming shaly toward the west.  | Lines of knobs. Red clay soil.   |
|          | Rogersville shale.                       | Erg      |                   | 100-225            | Bright-green clay shale, with a limestone bed.  | Valleys and low knolls. Thin, shaly soil.  |
|          | Rutledge limestone.                      | Ert      |                   | 180-500            | Massive, blue limestone, becoming shaly toward the west.  | Open valleys. Red clay soil.   |
|          | Rome formation.                          | Er       |                   | 350-400            | Red, green, yellow, and brown shale and sandy shale.  | Slopes of Rome sandstone ridges. Thin, sandy soil.   |
|          | Rome sandstone lentils.                  | Ers      |                   | 1100+              | Red, yellow, and brown, sandy shale and massive sandstone with layers of blue, sandy limestone.   | Sharp ridges with many notches and water gaps. Thin, sandy soil with fragments of sandstone.               |

GENERALIZED SECTION FOR MAYNARDVILLE QUADRANGLE NEAR HOLSTON RIVER.  
SCALE: 1 INCH = 1000 FEET.

| PERIOD.  | FORMATION NAME.        | SYMBOL. | COLUMNAR SECTION. | THICKNESS IN FEET. | CHARACTER OF ROCKS.   | CHARACTER OF TOPOGRAPHY AND SOILS.  |
|----------|------------------------|---------|-------------------|--------------------|---|---|
| SILURIAN | Sevier shale.          | Ssv     |                   | 700+               | Light-blue, sandy and calcareous shales with beds of limestone and argillaceous marble near the base. | Flat, open valleys with low knobs. Yellow and red clay soil.  |
|          | Tellico sandstone.     | St      |                   | 100-350            | Bluish-gray, calcareous sandstone and sandy shale.  | High, rounded knobs and ridges. Red, sandy soil.  |
|          | Holston marble.        | Shl     |                   | 200-400            | Variegated marble, red, brown, gray, and white.   | Rounded hills and slopes. Deep, red clay soil.  |
|          | Chickamauga limestone. | Sc      |                   | 500-700            | Blue limestones and gray, argillaceous limestones.  | Low and rolling valleys. Red clay soil.   |
|          | Knox dolomite.         | CSk     |                   | 3500               | Magnesian limestone with nodules of chert.  | Broad ridges and irregular rounded hills. Deep, red clay soil with many fragments of chert and sandstone. |

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