COLUMNAR SECTION OF THE UPPER STANLEY - LOWER ATOKA INTERVAL

by

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1963

PENNSYLVANIAN

MISSISSIPPIAN

ATOKAN — MORROWAN

CHESTERIAN — MERAMECIAN

STANLEY GROUP

ATOKA FM.

JOHNS VALLEY SHALE

UNDIFFERENTIATED

GAME REFUGE SANDSTONE

WESLEY SHALE

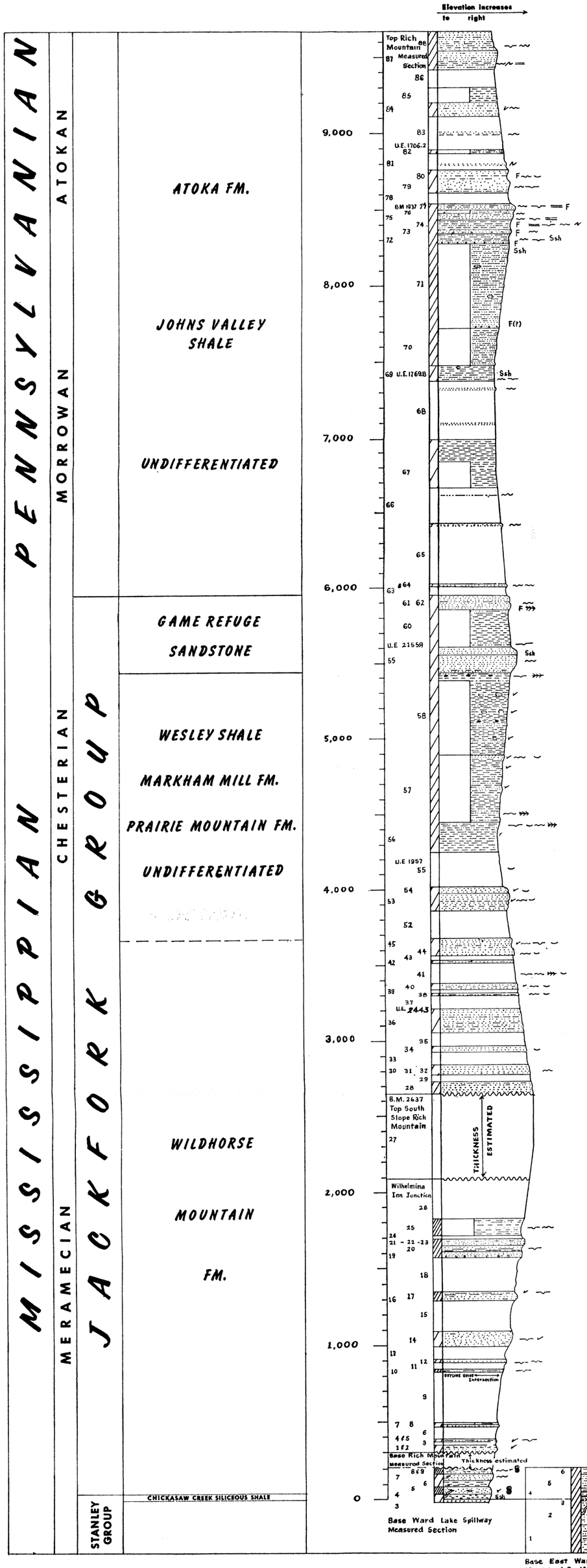
MARKHAM MILL FM.

PRAIRIE MOUNTAIN FM.

UNDIFFERENTIATED

WILDHORSE MOUNTAIN FM.

CHICKASAW CREEK SILICEOUS SHALE



Sandstone, very-light-gray to olive-gray, hard to friable, clean to argillaceous and micaceous; interbedded gray shale

Sandstone, very-light-gray to white, laminated; conglomerate, containing an invertebrate mold fauna; interbedded dark-gray to grayish-black, fissile to splintery shale and siliceous shale

Shale, dark-gray to grayish-black, some siliceous; gray sandstone interbeds and masses, some fossiliferous if in place

Shale, light-grayish white to light-brownish-gray and light-whitish-gray siltstone

Sandstone, light-gray to white, very-fine-grained, clean, containing invertebrate fossil molds; interbedded gray shale and spiculitic siliceous shale

Shale, dark-gray to grayish-black, splintery to fissile, containing subdiscoidal chert masses; interbeds and masses of carbonaceous sandstone

Sandstone, medium-dark-gray to white, moderately to well sorted, friable to hard, possessing pitted top surface and tracks of bottom organisms; interbedded gray shale

Shale, medium-dark-gray to grayish-black; interbedded olive-gray sandstone

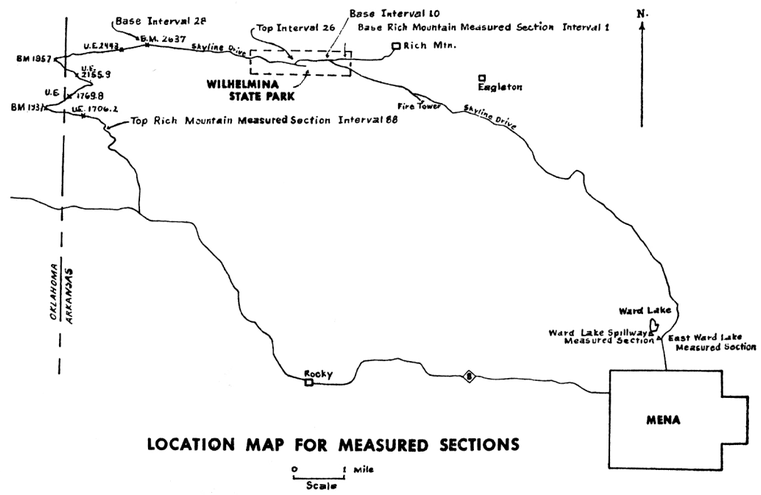
Sandstone, yellowish-gray, moderately sorted, containing quartz granules

Sandstone, medium-light gray to white, well sorted, stylolitic, interbedded gray shale

A maroon shale bed occurs in this interval at the east end of Rich Mountain syncline

Sandstone light-to dark-gray, very-fine to medium-grained, moderately sorted, stylolitic, containing Calamites and, locally, an invertebrate mold fauna; interbedded gray shale

Shale, light-gray to grayish-black, siliceous, containing white specks less than 0.1mm in diameter; interbedded gray, cross-bedded sandstone; quartz veins



LOCATION MAP FOR MEASURED SECTIONS

EXPLANATION

- ✓ Layers of carbonized plant fragments prominent in sandstone
- F Molds of invertebrate fragments, especially crinoid or blastoid columnals, present in sandstone
- Calamites stems in sandstone
- Trails of benthic organisms on top or bottom surface of sandstone
- Undulating upper surface of sandstones. These overlie a zone of wavy-or cross-lamination that is no more than a few inches thick
- Contorted bedding in sandstone
- Even-bedded sandstone breaking into plates along shaly, carbonaceous or fossiliferous laminae
- Sandstone has oriented and/or non-oriented bottom surface markings
- Sub-ellipsoidal depressions on top surface of sandstone and/or sub-ellipsoidal cavities within beds
- Quartz veins
- Ssh Siliceous shale
- Most distant spacing indicates white sandstone. Color is increasingly darker gray with increasingly close spacing of hachures. Closest spacing indicates dark gray
- 34 Measured section interval number. See Appendix for detailed interval description
- The most poorly exposed intervals are indented
- U.E. 2155.9 Unchecked elevation points which are marked with white paint on roadside rocks and whose positions are plotted on the Location Map are present at the stratigraphic levels shown