

**REVISED NOMENCLATURE AND SEQUENCE STRATIGRAPHIC
INTERPRETATION OF THE SILURIAN (TELYCHIAN TO SHEINWOODIAN)
OSGOOD FORMATION IN THE CINCINNATI ARCH REGION**

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The Early Silurian (Telychian—Sheinwoodian) Osgood Formation, or Osgood Member of Salamonie Dolomite as it is known in Indiana, has historically comprised four lithologic units, the “lower carbonate,” “lower shale,” “middle carbonate,” and “upper shale.” Re-evaluation of this formation within the context of sequence stratigraphy and regional lithostratigraphic relationships has resulted in the rejection of the existing Osgood nomenclature. Each lithologic unit of the former Osgood Formation represents most of a discrete systems tract, bounded by widely traceable surfaces; moreover, each unit can be confidently correlated to individually named formations in adjacent areas. Consequently, this stratigraphic nomenclature is extended throughout the Cincinnati Arch region, allowing consistent usage. The former “lower carbonate,” where present, represents a late transgressive systems tract (TST) and is equivalent to the Lee Creek Formation of Kentucky or Dayton Formation of Ohio, terms that are now treated as the appropriate names for this unit. The term Osgood Formation is restricted to the former “lower shale” unit, representing highstand (HST) to falling stage (FSST) deposition. The former “middle carbonate,” underlain by a sequence boundary and representing an early TST of the overlying sequence, is now termed the Lewisburg Formation, extending an Ohio term into Kentucky and Indiana. The former “upper shale,” representing a HST, is termed the Massie Formation, also extending an Ohio unit into adjacent states. The former basal portion of the overlying Laurel Formation is considered an upper unit of the Massie, as it lies below a sequence boundary and likely represents FSST deposition associated with the underlying sequence. This revised nomenclature recognizes the lateral persistence, lithologic distinctiveness, and sequence stratigraphic significance of these units; further, this permits uniform terminology across state lines and the reduction of an unnecessarily large and unrefined stratigraphic unit (the Salamonie), practices that should be encouraged universally. Previous inconsistent and redundant terminology has masked a remarkably uniform stratigraphic succession that appears to reflect parts of two depositional sequences with at least two scales of internal allocyclic cycles.