

Paper No. 63-5

Presentation Time: 2:50 PM-3:10 PM

END-DEVONIAN SUCCESSIONS IN NORTHWEST PENNSYLVANIA AND NORTHERN OHIO COMPARED: REVIEW OF POTENTIAL UNIT RELATIONSHIPS TO THE HANGENBERG BIOEVENT

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Detailed mapping of end-Devonian deposits across Crawford County, Pennsylvania has recently been extended westward into Ohio as part of a search for potential signatures of the global Hangenberg bioevent. The Cussewago Sandstone, apparently recording a glacially-induced, forced regression, fills an inferred lowstand paleovalley centered near the OH/PA state line where underlying Ohio units (Cleveland Shale, Bedford Shale) are overstepped. Preliminary conodont analysis suggests that units (West Mead Bed-Corry Formation succession), in-part equivalent to this missing interval, reappear east of this paleovalley. Improved biostratigraphic information from these units is needed, particularly, from a newly recognized base-Corry bone bed, to constrain the age of strata emerging eastward below the sub-Cussewago disconformity across Crawford County.

New work is directed to reexamination of the Cleveland Shale-Bedford Shale contact, the nature of basal Cussewago deposits within the paleovalley-fill sequence, and relationship of the topmost Devonian division (Berea Sandstone) to the basal Mississippian Sunbury Shale in Ohio. The base-Bedford contact grades southeastward from near conformity west of Cleveland to a major disconformity, which nearly oversteps the Cleveland Shale at its southernmost Cuyahoga Valley exposure. Several localities in Ashtabula County display gravelly basal Cussewago deposits within thickened paleovalley facies that have yielded numerous basement clasts; this immaturity indicates unusually rapid, possibly glacial, dissection of sediment source terrains. The base-Sunbury contact regionally overlies, not only Berea deposits, but also an unnamed (post-Berea?) grey shale unit, suggesting that, at least one regional disconformity underlies the Sunbury. These findings, as well as the enigma of the red Bedford facies in Ohio, will be discussed in the context of developing models.

[Northeastern \(46th Annual\) and North-Central \(45th Annual\) Joint Meeting \(20–22 March 2011\)](#)
[General Information for this Meeting](#)

Session No. 63

[Devonian Climate and Paleocology—Insight from Stratigraphic Studies III](#)

Omni William Penn Hotel: Conference A

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