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Sequence Stratigraphic Context of the World's Oldest Forest Deposit: Middle Devonian (Givetian) Near-Shore/Paralic Facies, Eastern New York State

The upper Middle Devonian (Givetian) Hamilton Group of New York State stretches from the shores of Lake Erie in the west to the Catskill Front in the east, encompassing facies deposited in deep, anoxic, basin to shallow, storm-dominated shelf and continental flood plain settings. The Moscow Formation, the uppermost unit of the Hamilton Group, is subdivided into six and one-half small-scale packages representing high-order cycles of sea level oscillation. The large-scale cycles have previously been correlated across the basin from Lake Erie in the west to near Hamilton in the east. Recent detailed tracing of marker horizons has demonstrated the even small-scale cycles can be correlated over 100 km. further eastward eventually to outcrops within the Schoharie Valley. Along this transect, the section thickens from about 75m. to 175m. and facies change rapidly, recording changes from the distal shelf to estuarine-fluvial environments. Despite these changes, general patterns of sea level oscillation cycles can be discerned even in the eastern-most, paralic outcrops

Correlation of small-scale cycles within the Moscow Formation has also elucidated the stratigraphic position of four different levels of the famous "Gilboa Forest" Lagerstätten. Exposed along the Schoharie Creek, stumps of the cladoxylon *Eospermatopteris* represent the oldest fossilized forest deposit in the world. *Eospermatopteris* trees were buried in life position by massive sands, rotted, and the portions encased by sand were filled-in to form molds. The stumps occur at the boundaries of the small-scale sea level oscillation cycles, i.e. transgressive surfaces within the middle and upper Moscow Formation.