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**Sheet-Like Lowstand Fluvial Deposits, Lower Cretaceous Missisauga Formation, Offshore Nova Scotia, Canada: Implications for Sequence Stratigraphic Models and Deep-Water Exploration**

A combination of core, well log, biostratigraphic, and seismic (2&3-D) data were integrated in order to study a thick (~ 100 m) and laterally extensive (>100 km) sheet-like braided fluvial/coastal plain/barrier/offshore marine succession at the transition between the Missisauga and Logan Canyon formations in the western Sable Sub-basin, offshore Nova Scotia. The sequence boundary at the base of the braided fluvial unit is relatively planar, and is overlapped by flat-lying reflectors that can be traced downdip to an aggradational lowstand wedge. Similar thick fluvial sheets are present in the Upper Pleistocene record of continental shelves where the post-glacial eustatic rise was coupled with high rates of sedimentation (e.g. Yellow/Yangtze, Mahakam, and Ganges-Brahmaputra). These data suggest that lowstand fluvial sheets, given certain boundary conditions, will form on continental shelves instead of incised valleys, and are probably more common in the stratigraphic record than previously recognized. In terms of deep-water exploration, the presence of a lowstand fluvial sheet on a given shelf might indicate that 1) the shoreline did not reach the shelf edge during sea level fall and accordingly no deep-water sandbodies were deposited, or 2) the shoreline reached the shelf edge, but the down-dip turbidite system, if developed, was fed by a relatively diffuse line-source (instead of a focused incised-valley point-source).