

Sedimentology of Goldenville Formation, Eastern Shore, Nova Scotia

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The Goldenville Formation forms the lower part of the Cambro-Ordovician Meguma Group which underlies most of southern mainland Nova Scotia. Stratigraphic sections have been measured along well exposed coastal areas west of Sheet Harbour primarily within the south limb of the Sober Island Syncline, and correlated by means of matching vertical magnetic gradient profiles. This correlation identifies major lateral facies changes occurring over the approximately 15 km eastwest strike length studied. Principally thick (50-100 m) sandstone-dominated units interdigitate with more shaley facies, with some cases showing cross-cutting erosional contacts at their

bases. A preliminary classification of the sediments into eight facies has been adopted based on their grain size, bed thickness and sedimentary structures.

The vertical sequences (showing both thinning and thickening upward trends) and the range of sedimentary facies found can be accommodated best in the midfan area of deposition in a submarine-fan model.

Detailed analysis of the thickness variation and lateral changes of the vertical sequences from section to section is presently underway and should lead to an improved understanding of this depositional system.