

most likely location of deposition is at the toe of a submarine slope; farther up-slope, extensional structures would be predicted. Not all the structures within the member are purely syndepositional; outcrop-scale folds near the top may result from tectonic strains that have amplified heterogeneities initially produced by syndepositional deformation.

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### Significance of a Meguma mass transport deposit in Halifax, Nova Scotia

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Portions of the Meguma Supergroup in Nova Scotia have been interpreted as originating in slope, rift, and shelf environments; indications of paleoslope have important implications for tectonic environment. The Bluestone formation represents the upper part of the Halifax Group in the Halifax Peninsula and adjacent mainland. Despite the overprint of regional deformation and contact metamorphism, most outcrops display well-bedded metasedimentary rocks with Bouma sequence structures. Cleavage and an intersection lineation are related to the west-southwest-plunging Point Pleasant syncline.

In contrast, at Chain Rock, quartzose and calc-silicate hornfels representing originally coarser metasedimentary rocks occurs as isolated blocks containing rootless folds with curved axial traces. Along strike at the Martello Tower, folds display curved hinges that plunge both west-southwest and east-northeast. At Fort Ogilvie, ovoid metasandstone blocks occur in an originally fine-grained matrix. The unit, distinguished as the Chain Rock member, is 50 to 100 m thick and forms a ridge that was exploited for 19th century fortifications. On the hinge of the Point Pleasant syncline, upper and lower contacts are exposed. Folds, indicated by curved intersection lineations, are cross-cut by cleavage. On the north limb, the unit can be traced beneath Saint Mary's University to Northwest Arm. Traced west from Chain Rock to Bluestone Quarry, it is offset with sinistral separation by an inferred fault beneath Northwest Arm.

The style of deformation suggests localized extreme competence contrasts. Deformation post-dated cementation of concretions, but pre-dated regional metamorphism. The unit is interpreted as a mass-transport deposit produced by downslope mass-movement of weakly consolidated sediment. Shear zones at the base climb up-section along strike towards the ENE, shortening strata, with folds that face generally northeast. This implies north or northeast-directed movement, consistent with regional paleocurrents and a proposed location for the Meguma terrane on a rifted margin of Gondwana. The