
**Trends and architecture of the Bluestone Formation
turbidites in Point Pleasant Park, Halifax, Nova Scotia**

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In the Meguma Supergroup, a series of sandy and shaly intervals formed in a range of depositional environments from deltaic to deepwater. The Lower Ordovician Bluestone Formation in Point Pleasant Park on the Halifax Peninsula is part of the Halifax Group and includes low density turbidites containing Bouma Sequence T_{a-e}. The goal of this project is to understand the distribution and architecture of these turbidites. Data collection includes measuring and logging sections, paleocurrent measurements from such features as tool marks and current ripples, petrographic analysis, scintillometer measurements to create synthetic gamma logs, LiDAR to develop 3D models in Petrel, to investigate the geometry and

architecture of the studied sections. Data were collected at outcrops along the Northwest Arm, Black Rock Beach, the Battery, and Sailors' Memorial Road. The strata are made up of mainly quartz, mica, zircon, and tourmaline, and show five lithofacies. These lithofacies make up a cyclic lithofacies association which is separated by sharp or scoured contacts. Scintillometer analysis showed no apparent relationship to lithology, likely due to the moderate metamorphism throughout the Meguma Supergroup. Interpretations suggested that the lithofacies association is characteristic of the Bouma Sequence. Current ripples on bedding planes indicate the paleocurrent was towards the northwest. The beds fine and become thinner towards the top of the outcrop and lithofacies like sandy-siltstone ripples, and structureless silty slate to slate become more dominant, due to the reduction of sediment supply. The lithofacies association is characteristic of the Bouma Sequence and represents low density turbidity processes.