

Large-Scale Stratigraphic Architecture of a Deep-Water Slope Conduit, Nanaimo Group, Hornby Island, Canada

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Abstract

Large conduits on continental margins provide large-scale pathways for sediment transfer to the deep-sea. In the rock record, the conduits comprise a network of channel bodies with axes represented by deep scour surfaces and amalgamated coarse-grained deposits. The margins of the conduits are often characterized by preservation of a variety of deposits that help reconstruct the history of protracted erosion, sediment transfer, and ultimately, deposition. In this study, the presence of a large-scale composite sedimentary body, attributed to submarine canyon or slope valley processes, is established in the Nanaimo Group on Hornby Island, southwestern British Columbia (Fig. 1A). Hornby Island is located in the Strait of Georgia between Vancouver Island and mainland British Columbia, between the towns of Comox and Nanaimo. The Late Cretaceous Nanaimo Group is a >4 km thick siliciclastic succession thought to have accumulated in a deep-water foreland basin setting (Mustard, 1994). The recognition of a large-scale slope conduit deposit provides new insight into paleogeographic interpretations.