
Stratigraphy and structure of the Dunnage-Coaker corridor, central Newfoundland

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This study focuses on the relationships between the Dunnage Mélange and the Coaker Porphyry, within the Dunnage-Coaker Corridor. Previous workers who have studied the area presented different scenarios for the origin of the mélange, especially the development of its chaotic nature. The focal point of this study has been to resolve stratigraphic and structural relationships between the Dunnage Mélange and the Coaker Porphyry, as well as to delineate stratigraphic variations within the mélange.

Stratigraphically, the sedimentary units within the mélange exhibit alternating successions between shale units and coarse conglomeratic shale units. These units were intruded by the Coaker Porphyry as high-level intrusive to extrusive, tabular, and sill-like bodies. Mafic volcanic blocks occur as semi-continuous horizons suggesting the presence of original extrusive flow units within the basin.

The structural geometry of the Dunnage-Coaker Corridor is related to the effects of a series of fold events. F_1 folding was generally tight and asymmetric, and created associated S_1 cleavage. These folds were refolded by F_2 open to tight asymmetric folds. Related to the F_2 fold structures is S_2 cleavage, which is the most easily recognizable feature throughout the area. This stage of folding was followed by a third stage (F_3) that caused kink and chevron monoclinial and polyclinal fold systems. The "chaotic" nature of the Dunnage Mélange can be attributed to fold interference patterns related to the first (F_1) and second (F_2) generations of folding.
