Transpressive D_2 thrusting in the Hartts Lake-Murray Brook area, Bathurst Camp, northern New Brunswick

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The Hartts Lake-Murray Brook area, located in the northwest part of the Bathurst Camp, is underlain by sedimentary and volcanic rocks of the Tetagouche and Miramichi groups and intruded by the syn-tectonic Popple Depot granite. The northwest-trending Forty Four Mile Brook Thrust has been recognized as a major tectonic contact that subdivides the area into eastern and western structural domains. East of the thrust, steeply dipping felsic volcanic rocks of the Flat Landing Brook Formation and mafic volcanic and sedimentary rocks of the Boucher Brook Formation are folded into tight, north/south-trending, doubly plunging F_2 folds. Quartz-feldspar volcaniclastic rocks of the Nepisiguit Falls Formation occur in the far northeastern part of the map area where a thin sedimentary unit marks the contact with the overlying Flat Landing Brook Formation. The area west of the thrust is characterized by a well-developed flat cleavage (S_3) and recumbent folding (flat belt). In this area, interference between F_2, F_3 and F_4 folds has created a complex outcrop pattern between quartz-feldspar, crystal-rich Nepisiguit Falls Formation rocks and aphyric to sparsely feldspar (± quartz) phyric volcanic rocks of the Flat Landing Brook Formation. Black phyllite, considered to be laterally equivalent to the Brunswick Horizon, occurs locally near the top of the Nepisiguit Falls Formation. The Devils Elbow and Mount Fronsac deposits as well as three new mineral occurrences are found at this horizon. Tectonic and structural relationships observed in the map area suggest that the thrusting was associated with D_2 sinistral transpression and that it played a major role in the development of the flat belt in the western part of the Bathurst Camp.