The Labrador Central Mineral Belt: 
80 years of mineral exploration history

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The Central Mineral Belt (CMB) comprises six Proterozoic 
supracrustal sequences, granitoid suites, and adjacent Archean
basement in central to coastal Labrador. Tectonically the belt encompasses the Makkovik Province, southern portions of the Hopedale Block, Nain Province, the northeast margins of the Grenville Province and the Seal Lake Group successor basin (and Mid-Continent Rift analogue). Lithological units include late Archean granitoids through ca. 2.0–2.1 Ga Post Hill and Moran Lake groups, the ca. 1860 Ma Aillik Group, ca. 1650 Ma Bruce River Group, ca. 1337 Ma Letitia Lake Group, ca. 1250 Ma Seal Lake Group, and a variety of granitoid and mafic dyke suites.

The CMB encompasses 260 km × 75 km and contains some of the most metallogenically enriched crust in Labrador. Commodities present include significant reserves and resources of uranium, and appreciable resources of copper, molybdenum, base metals and Be-Nb. Styles of mineralization range from intrusion-related, syngenetic SEDEX, veins, shear zone-hosted, silicate skarn, and iron formation (albeit small in the case of the latter). The first mineral exploration program in the belt was directed at sediment-hosted massive sulphide occurrences of the Croteau Lake area in 1929. Copper was discovered in the Seal Lake region in 1946, Pb-Zn veins north Moran Lake in 1953, uranium around Makkovik in 1954, Be at Letitia Lake in 1958, and molybdenum near Cape Aillik in 1959. Intensive exploration work led to the discovery of the Kitts U Deposit in 1956, the Moran “C” U prospect in 1958, and the Michelin U Deposit in 1967. The CMB was also the proving ground for regional geochemical surveys in the late 1950s. Since 2005, the CMB has been the focus of intense mineral exploration, most especially at the Michelin Deposit where mineral production had been planned to start in 2013. Other prospects have been extensively examined since 2005, and new uranium discoveries such as Jacques Lake, Anna Lake, and Two-Time have been made.