

A review of the geology and mineral potential of Archean greenstone belts in Labrador

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Archean greenstone belts of the Canadian Shield and Archean cratons elsewhere are well-known for their significant volcanogenic polymetallic and mesothermal precious metal deposits. The greenstone belts in Labrador, particularly the low- to medium-grade Florence Lake and Hunt River belts in the Hopedale Block (southern Nain Province) have the potential to host similar deposits. Medium to high-grade greenstone belts in the southeastern Churchill Province, and the sediment-dominated supracrustal belts in the Archean Ashuanipi Complex (Superior Province) of central and western Labrador, respectively, have not been extensively explored, but do have some mineral potential.

In the Archean greenstone belts of Labrador, current exploration activity is concentrated in the Florence Lake greenstone belt. It has been infrequently explored for the past 40 years; much of this activity focused on the komatiite-associated Ni-sulphide occurrences at, and around, the Baikie showing. However, the belt also has good potential to host volcanogenic massive sulphide and gold deposits. This paper will review aspects of the geology and mineral potential of the Archean greenstone belts in Labrador, with an emphasis on data arising from recent studies in the Florence Lake and Hunt River belts.