
**The preliminary classification of diverse
uranium mineralization in the Central
Mineral Belt region, Labrador**

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The Central Mineral Belt (CMB) of Labrador has long been known to host significant uranium resources, which were identified in the late 1970s. Due to a downturn in uranium market prices, little exploration for the commodity has been carried out in that region since the early 1980s. A recent resurgence in uranium prices has brought about a new era of intensive uranium exploration in the CMB, which has resulted in the further expansion of known uranium resources as well as the discovery of new uranium deposits and numerous new occurrences. This resurgence in exploration continues to expand the boundaries of known uranium mineralization, and provides a continual stream of new information that broadens out current knowledgebase with regards to the mineralizing environments within the CMB and surrounding region. Presently, known uranium occurrences are considered to have developed in broadly magmatic, metamorphic-metasomatic, and sedimentary environments. These environments represent a protracted period of uranium mineralization which has now been identified discontinuously over ca. 200 km of strike length.

Magmatic mineralization of syngenetic affinity is represented by uraniferous pegmatites and aplites, and also by some mineralization hosted by undeformed or little-deformed felsic volcanic rocks. Magmatic-hydrothermal mineralization of an epigenetic affinity is represented by breccia-hosted mineralization associated with iron metasomatism, and is locally associated with V, Cu, and Ag enrichment. Mineralization of possible metamorphic-metasomatic origin is hosted by felsic metavolcanic and pelitic metasedimentary rocks that have experienced strong deformation. These are characterized by

pre- or syndeformational timing, location in shear zones, and associated Na-metasomatism. The exact origins of the metamorphic-metasomatic mineralization remains obscure, but hydrothermal transport and deposition of uranium during regional deformation and metamorphism may be important processes in Labrador. Mineralization in sedimentary environments is hosted mostly by terrestrial sedimentary rocks, within which uranium appears to be linked to the localized reduction of oxidized sequences. This mineralization may have affinities to sandstone-hosted mineralization known mostly from Phanerozoic sequences, or to some mineralization associated with Proterozoic unconformity-style deposits.

Much of the mineralization within the CMB region has been affected by post-mineral deformation which has resulted in the local remobilization of primary uranium mineralization. Such effects make the classification of the mineralization somewhat problematic as many of the primary features are masked by later deformation. Despite this fact, several commonalities can be seen between the various styles of uranium mineralization, and lends further support to multiple mineralizing events within the region.