Pre-, syn-, and post-accretion gold deposits in the New Brunswick Appalachians

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Pre-accretion gold deposits in New Brunswick include Ordovician auriferous massive sulphide deposits and porphyry copper deposits in the Miramichi Terrane. Gold production in the province was initiated by cyanide heap leaching of gossan caps overlying some of the Ordovician massive sulphide deposits.

Middle Silurian-Early Devonian (Acadian) syn-accretion deposits are associated with extensive transpressive shear zones that are mostly close to the boundaries of tectonostratigraphic terranes and/or cover sequences. All these deposits occur north of or along the northern margin of the Avalon Composite Terrane. Syn-accretion deposits include quartz-carbonate veins and stockworks, polymetallic veins, contact metasomatic and porphyry-copper-molybdenum deposits.

Auriferous quartz-carbonate veins and stockworks, and some contact metasomatic deposits are locally associated with post-accretion Middle to Late Devonian granitic intrusions. These deposits occur in the same mineral belts as the syn-accretion deposits and could reflect reactivation of these earlier deposits.

The largest epigenetic gold deposits discovered to date in New Brunswick are associated with major Carboniferous (Hercynian) thrust fault systems along the southern margin of the Avalon Composite Terrane. No intrusions are associated with these deposits.

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