

The Opaque Mineralogy of Metasedimentary Rocks of the Meguma Group, Beaverbank-Rawdon Area, Nova Scotia¹

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Opaque mineralogy of a representative cross-section of deformed and metamorphosed turbiditic slate and metasandstone of the Meguma Group has been investigated optically and by electron microprobe. A strong stratigraphic control over the presence and abundance of certain opaque minerals is recognized, which may prove useful for environmental evaluation such as acid drainage potential. Abundant pyrite and pyrrhotite in the lower Halifax Formation reflect concentration of early diagenetic pyrite resulting from the reduction of seawater sulphate under anoxic conditions. Magnetite is restricted to the Goldenville Formation. Ilmenite and

rutile occur throughout the succession, and minor chalcopyrite, arsenopyrite, covellite, hematite and glaucodot were also noted.

Pyrrhotite and ilmenite, as well as spessartine, chlorite and chloritoid porphyroblasts, developed during prograde metamorphism before and/or during cleavage formation, which also resulted in removal of early diagenetic pyrite. Later pyrite formed by replacement or remobilization of pyrrhotite during retrograde metamorphism. Colloform pyrite, arsenopyrite and chalcopyrite are the youngest mineral phases.

¹ *In Atlantic Geology*, v. 33, p. 105-120)

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