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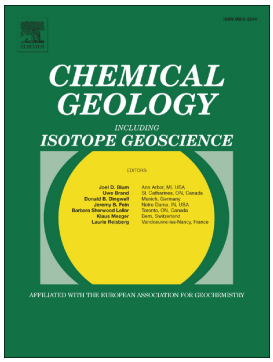

Involvement of variably-sourced fluids during the formation and later overprinting of Paleoproterozoic Au-Cu mineralization: Insights gained from a fluid inclusion assemblage approach

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Involvement of variably-sourced fluids during the formation and later overprinting of Paleoproterozoic Au-Cu mineralization: Insights gained from a fluid inclusion assemblage approach

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Abstract

Au-Cu mineralized quartz veins of the Reef Deposit, Wisconsin, USA, originally formed prior to or early in the Paleoproterozoic Penokean orogeny in central North America as either the root zone of a gold-rich VMS deposit, or in an orogenic gold setting. Nearly 400 m.y. later, magmatic hydrothermal fluids associated with a continental scale anorogenic magmatic event remobilized mineralization within the veins. And still later, during the Paleozoic, remobilization and perhaps upgrading of Au and other metals occurred in response to circulation of fluids associated with Mississippi Valley-type deposits found in overlying supracrustal rocks. Fluid constraints on the formation of the Reef Deposit and later overprinting over a 1.5 b.y. timeframe