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ELECTRONIC ARTICLE

Three-dimensional model of heat flow in the aureole of the Marcy anorthosite, Adirondack Highlands, New York: Implications for depth of emplacement

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ABSTRACT

The New Russia gneiss complex occurs within a broad, very high temperature (800–950 °C) metamorphic aureole against the eastern margin of the Marcy anorthosite, northeastern Adirondack Highlands of New York. Three-dimensional models of heat flow from the anorthosite indicate that an aureole like that preserved in the New Russia gneisses would form if the country rock were at high temperature (>700 °C) and at depth prior to intrusion. These findings are consistent with geobarometric evidence indicating that partial melting in the aureole occurred at 700–1000 MPa and support the hypothesis that the anorthosite intruded at a depth of 25 to 35 km.

* This article is designed to be read on a computer with internet access. The full text of the article can be obtained in pdf format at http://gmr.minsocam.org/Papers/v1/v1n4/v1n4abs.html.

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