

Sm-Nd AND Rb-Sr AGES OF GARNET-BEARING GRANITE
FROM THE SØR RONDANE MOUNTAINS, EAST
ANTARCTICA (ABSTRACT)

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New Sm-Nd and Rb-Sr data are reported for the garnet-bearing biotite granite dike from the northwestern part of the Brattnipene area, Sør Rondane Mountains (71°52.5'S, 24°11'E). The mode of occurrence suggests that the granite intruded during the waning stage of the granulite facies regional metamorphism.

The Sm-Nd whole-rock-mineral (biotite, plagioclase and garnet) isochron yields 1116 ± 35 Ma (MSWD=0.52) with an initial ratio of 0.511618 ± 0.000056 ($\epsilon_{\text{Nd}} = +8.2$). The isochron is largely controlled by garnet. The calculation based on garnet and whole-rock pair shows 1118 Ma. Biotite and plagioclase plot slightly away from the 1118 Ma isochron. In the Rb-Sr system, no meaningful isochron for the whole-rock and three minerals can be drawn due to isotopic scatter. The whole-rock and plagioclase pair and the whole-rock and biotite pair yield 560 Ma and 496 Ma, respectively. The whole-rock and garnet pair cannot be calculated because of low concentration of Rb and Sr in garnet.

The Sm-Nd age of 1118 Ma is attributed to the age of the granite formation. This age is conformable with the Sm-Nd whole-rock isochron age of 961 ± 101 Ma for granulites from the nearby area reported by K. SHIRAISHI and H. KAGAMI (Recent Progress in Antarctic Earth Science, ed. by Y. YOSHIDA *et al.* Tokyo, Terra Sci. Publ., 29, 1992). In addition Rb-Sr mineral ages of 560 Ma and 469 Ma for the granite are in good agreement with those of 560 Ma (whole-rock, hornblende and plagioclase) and 490 Ma (whole-rock and biotite) for the granulites.

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