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Phase equilibrium modelling of sapphirine-bearing metabasites from Akarui Point in the Lutzow-Holm Complex, Antarctica

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Phase equilibrium modelling of sapphirine bearing metabasites from Akarui Point in the Lutzou-Holm Complex, East Antarctica, in NCKFMASHO system indicates that ca-amphibole + plagioclase + orthopyroxene + garnet + biotite + sapphirine assemblage is stable at 860-890C and 6.5-8.5 kbar. The peak P-T condition, which is significantly gugher than that of surrounding rocks (770-790C), suggests that the sapphirine-bearing metabasites underwent local high-T event or minor components (such as B in sapphirine) might significantly decrease the stability temperature of the assemblage.

Keywords: sapphirine granulite, pseudosection, Gondwana, ultrahigh-temperature metamorphism