

Occurrences of sapphirine granulites in the Tonagh Island, Napier Complex, East Antarctica

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Tonagh Island locates in the central part of Napier Complex underlain by Archean-Proterozoic ultra high temperature (UHT) metamorphic rocks. The UHT rocks are subdivided into five lithologic unite bounded by thrust-shear zone each other. Sapphirine-bearing aluminous granulites in the units I-III show various mode of occurrences as follows; (1) UHT metasomatic reaction zone between ultramafic and felsic gneisses (characteristically Cr-rich Spr without Qtz), (2) lenticular block surrounded by granitic leucosome in the felsic gneiss (high-Mg Spr with colorless Spl and Crn, not coexist with Qtz), and (3) quartz-feldspathic variety among layered gneiss (Spr+Grt+Qtz and Opx+Sil+Qtz).