

## P-T evolution of eclogitic Grt-Cpx rocks from Vadugappatti within the Gondwana Suture Zone, southern India

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We report new petrological data of eclogitic garnet-clinopyroxene rocks from two new localities in Namakkal region within the Palghat-Cauvery suture zone, which corresponds to the Gondwana suture zone in southern India. The eclogitic rocks from Pavithram comprise garnet and clinopyroxene with accessory orthopyroxene, hornblende, plagioclase, and quartz. The peak mineral assemblage is garnet, clinopyroxene, orthopyroxene and quartz. The garnet is often surrounded by orthopyroxene + plagioclase + hornblende corona, suggesting the reaction: garnet + clinopyroxene + H<sub>2</sub>O => orthopyroxene + plagioclase + hornblende probably due to decompression from high-pressure stage possibly along a clockwise P-T path. This is a common reaction texture of mafic granulites in the region around Namakkal. The peak mineral assemblage of the eclogitic rocks from Vadugappatti is clinopyroxene, orthopyroxene and plagioclase. In contrast to Pavithram, clinopyroxene in the rocks is surrounded by garnet + quartz corona, suggesting the progress of reaction: clinopyroxene + plagioclase => garnet + quartz probably due to near-isobaric cooling or compression possibly along a counterclockwise P-T path. The two contrasting textures in garnet-clinopyroxene rocks from this region might indicate the occurrence of discrete metamorphic blocks with different P-T history within the suture.

Keywords: granulite, pseudosection, high-pressure metamorphism, Neoproterozoic