

# Amphibole two-pyroxene granulite retrograded from garnet pyroxenite in northern Dabie, Central China

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The granulites are widespread in the northern part of the Dabie Metamorphic Complex (DMC), Dabie-Sulu orogenic belt, Central China. Amphibole two-pyroxene granulite in Muzidian area is composed of hypersthene, amphibole, plagioclase and minor clinopyroxene and quartz. Garnet pyroxenite occurs as block in the amphibole two-pyroxene granulite. Garnet porphyroblasts or megacrysts are up to 1.5~2 cm, contain inclusion of clinopyroxene and rare orthopyroxene. Garnet and clinopyroxene in the garnet pyroxenite were replaced by the symplectite or corona of plagioclase + hypersthene + amphibole. Garnets contain exsolved rutile needles in three directions, clinopyroxenes contain very fine quartz lamellas which parallel to cleavage of host mineral.

The petrography observation shows that garnet pyroxenites have experienced at least three stages of metamorphism, they are from early to late: the garnet pyroxenite stage (eclogite facies stage), the symplectitic stage and the granulite stage. Their metamorphic conditions are 760°~ and >1.5GPa, 750°~ and 0.9GPa, and 850°~ and 0.8GPa, respectively.

This result shows that the garnet pyroxenite from the Northern Dabie, had been subjected high-pressure metamorphism of eclogite facies, and retrograde metamorphism of granulite facies during the uplift. The process of retrogression is characterized by the isothermal decompression in the early stage, isobaric heating in the medium stage, and decreasing temperature and pressure in the late stage.