Crystallization, remelting and compaction in the roof zone of magma chambers of the Oman ophiolite

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We have carried out detailed mapping in Sohar area and described the textures and structures of the roof zone of the ancient magma chamber in the Oman Ophiolite, and attempted quantitative analyses of rock textures and mineral compositions. The stratigraphic sequence of the roof zone can be generalized as doleritic gabbro, pegmatitic gabbro, isotropic gabbro and laminated gabbro, in descending order. The isotropic and laminated gabbros show cumulus textures. Interstitial melt fractions of the gabbros are estimated to be < 30%, which are larger than that of the doleritic gabbro (65-75 %). The doleritic gabbro partially shows plagioclase networks, which seem to be formed by partial melting in the roof zone of magma chambers.