

Ocean-ridge segment structure in the northern Oman ophiolite and regional variation of gabbroic layer

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Regional variation of gabbroic layer in the Oman ophiolite reflects ocean ridge segment structure. We have found significant regional variation of gabbroic layer in the northern part, revealing different position in the ridge segment. The central part of segment which coincides with most active mantle diapir is characterized by abnormally thin gabbroic layer less than 1.5 km thickness. It is also characterized by thick Moho-transition zone more than 300 m and frequent occurrences of melanocratic gabbro in the gabbroic layer. Furthermore, we found some abnormal layered gabbros appearing in sheeted dyke complex in the presumed central part of segment. These gabbros may be formed in submagma chamber delivered from main magma chamber beneath ocean ridge due to high rate of magma supply.