DIAMONDIFEROUS POTENTIAL OF KIMBERLITES AND LAMPROITES EVIDENCED BY THEIR SPINELLIDES

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Kimberlites and lamproites are free of their own high-pressure mineralization. Typical of them diamond and attendant minerals were inherited by kimberlites and lamproites from primary diamondiferous rocks (eclogites, garnet peridotites and pyroxenites) in the course of development of their fluid-magmatic chambers in intrusions of mentioned above ultramafic rocks (course of fluid-magmatic replacement of ultramafic rocks). The minerals of primary diamondiferous rocks served as seed-crystals during crystallization of kimberlite and lamproite own minerals, determining to some extent regular trends of their composition variation. The results of research of spinellides of kimberlite, lamproite and their nodules in this regard are discussed in the paper. The spinellides of these rocks form chromite-chromespinel-magnetite solid solutions. The features of their composition trends have made possible to distinguish diamondiferous kimberlites and lamproites from kimberlite- and lamproite-like rocks not promising source for diamond deposites. Diamondiferous types of rocks incorporate spinellides with composition trend directed toward chromite of diamond inclusions typical for kimberlite ($Ti_{0,003}Al_{0.38}Cr_{1.44}Fe_3+0.17\ Fe_2+0.44Mg_{0.55}$) or lamproite ($Ti_{0.084}Al_{0.07}Cr_{1.5}\ Fe_3+0.27\ Fe_2+0.63\ Mg_{0.44}$) pypes. These trends notisebly differ from trends of non-diamondiferous kimberlite- and lamproite-like rocks aimed to the chromespinel composition. To a greater extent they differ from magnetite-spinel trends inherent in alkaline basalts. Revealed regularities of chromespinel trends have not only practical, but theoretical implication unravelling the nature of development of alkalinity in magmatic processes.