



Isotopical-geochemical inhomogeneities of the undercrust lithosphere of the Central Asia

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Cenozoic basaltic volcanism was manifested in many disconnected areas situated between 92 and 116⁰E on the territory of Mongolia (Central Asia). Specific features of basaltic volcanism consist of that it was manifested in conditions when were low-thickness continental platform deposits were accumulated and volcanism was usually regarded as related to the platform tectonic regime

Additional geochemical and isotopical investigations of alkaline basalts and deep-seated xenoliths from Central (Hanguay) and South-East Mongolia (Dariganga) were conducted aimed at finding out the substance inhomogeneities of the underlithospheric mantle, i.e. of areas of generation of the main mass of magmatic basaltic rocks. A conclusion that all studied basalts are located in interplate basalt fields on tectonical-petrogenetical diagrams Th-Hf-Ta was confirmed clearly. Difference between basalts from some areals of Mongolia by composition and generation, conditions (for example, diagrams Th/Tb – Th/Ta, Ti/Zr – K/Zr) is clearly seen.

Points of composition of Mongolian basalt composition are distributed (for example, Sm/Yb – La/Sm, La/Nb – Zr/Nb et.al.) in fields between mantle reservoir DM, MORB and enriched mantle EM, PM, HIMU.

It was shown that basalts of Dariganga and Tarijat-Tchulutuain areals were close to magmatic reservoir of the recycled mantle but basalts from Orkhon-Selenga area were close to a source of EM-type. It was shown that there is a lateral and age difference in terms of geochemistry in the above basalts, that is confirmed by difference in deep magmatic sources.

The magmatic activity in Mongolia (probably) and in other regions Central and East Asia was caused by the mantle plumes or by individual projections of the anomaly mantle (in a geophysical sense). It is likely it was connected with a single Central-Asia widespread plume.

It has been new data on $^3\text{He}/^4\text{He}$ from clinopyroxene Shavarin-Zaram (Laboratory geochronology and geochemistry of isotopy in Geological Institute of the Kolsky Science of the Russian Academy of Science (Apatity-city). The study was supported by Russian Found of Fundamental Investigations 03-05-64077.