

PERSPECTIVES OF KIMBERLITE MAGMATISM DURING PERMIAN-TRIASSIC AGE OF PERM PRE-URALS.

Sychkin, G.N.

PSGGE "Geokarta", Geologov St., 29, Perm, 614065, Russia

Diamond placer deposits are known in Urals from 1829. Their industrial exploitation have been started in 1941 (16 years earlier than in Sakha-Yakutia).

Kimberlite Formation is known to be associated with paleoplatforms. Diamond placers were revealed in folding areas (Appalachian, East-Australian and Uralian) the geological conditions of which are considered to be unfavourable for Kimberlite Formation development. Supposition about possible connection of diamond placers with basanite and ultrabasic (nonkimberlite) rocks has not been confirmed by longterm prospecting survey works. Diamond placers which lost connection with source areas have been studied in the Urals where placers are associated with the river valleys of karst areas or located directly lower of the above-mentioned areas and are formed by washing out of karst deposits from interfluvial cavities in which side by side with diamonds rare redeposited well-rounded pebbles of stable rocks of near-shore genesis, paleogene sea fauna and alien to modern geological environment minerals staurolite and kyanite are encountered. Due to high migration ability diamond formed vast near-shore trains of the Upper Cretaceous and Paleogene Age. When in Neogene Times the uplift of the Urals took place these trains were washed out. In karst areas stable minerals were subjected to vertical migration and formed karst collectors feeding diamond placers of modern drainage system. Peculiarities of karst process development in folding areas create favourable conditions for continuity of the epochs of karstification and contribute to good preservation of stable minerals brought about during the previous geological time, in spite of intensive denudation which is in practically unlimited progress.

The analysis of the world basis diamond deposits locations, geological-structural position of Urals diamond carrier province, paleogeographical conditions of the formation of plant placers of alluvial genesis and karst spacing collectors of diamonds (Stepanov, 1985) allowed us to substantiate the perspectives of basic diamond carrier of the eastern platformian part of Perm and Komi-Permian national regions, which are the part of the so-called Sarmat (Upper Volga) nuclear (Stepanov, Sychkin, 1992).

Besides the promote geological-structural conditions (optimal depths of deposit occurrence of Archean-lower proterozoic crystalline fundamental formations of 2.0-4.0 km, the presence of zones of depth breaks, local geophysical anomalies, etc.) some direct mineralogical research criteria of kimberlite diamond deposits were also found out. In alluvium of Kama river's upper part (Ganin-village region) and some of its branches (Kosa, Lologa, Obva) the minerals-sputniks of the diamonds in kimberlites-piropes, chromespinelides zircones with tipomorphic indications of the minerals from kimberlites were revealed (according to the conclusion of mineralogical laboratory of Central Geological Survey Institute, Kharkiv A.D.).

The study of garnets chemical structure permits us to set up

its mother-sources such as kimberlites, eclogites from kimberlites and metamorphic rocks of platform fundamental formation. There is observed nearly the same collection of various garnets as in kimberlite system of Yakhutia province (Kharkiv A.D, 1989).

Thus there are real assumptions of founding out kimberlites of late Permian and Triassic Age in the east of West European platform (Perm Pre-Urals), its exhibition may be connected with tectono-magmatic activation.

Last time nearly all the regions of European Russia have declared about diamond perspectiveness of their territories. Reports from Vologodsky region, which is situated 300 km to the west from Perm region, in the similar geological-structural conditions, are of great interest. In the north-eastern part of Vologodsky region, on the square of 10 000 km² there were discovered several parts, perspective, according to geological-geophysical data, which can be of only post-Permian (mesozoic-kainozoic age). This is one more, additional argument in favour of basis diamond deposits discovery in the western, platformian part of Perm and Komi-Permian regions, in particular, on the territory of the so-called Sokolovsky jut of crystalline foundation.