

TYPOMORPHISM OF VARIOUS GENETIC TYPES OF THE UKRAINIAN DIAMONDS,

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Diamond is one of the most studied minerals. But, in connection with its poligenousness, established recently, diamond is subjected to the comprehensive investigation with the purpose of each genetic type typomorphic features revealing.

Attached to this, method of diamond ascribing to a certain genetic type by a nature of minerals, syngenetically included in it, is not always applicable due to relatively rare occurrence of the latter and considerable difficulty, and, hence, high price of their composition precise determination. That's why for a reliable diagnostics a complex of typomorphic features is employed. They are: dimensions, morphology and ratio of habit forms, colour, existence of different phases, character of impurity nitrogen, ratio of heavy and light carbon, set of centers and colour of photoluminescence and series of the other, making it possible to ascribe diamonds to a certain genetic type.

It is necessary to underline, that diamonds from the Ukrainian placers of various age belong to poligenous formations. Their specific features are: presence of multy-phase and microaggregate varieties, the supreme role of cubes, prevalence of crystals with orange crystalloluminescence (center 575 nm), considerable amount of non-luminescing diamonds, increased content of coloured varieties (Kirikilitza et al., 1981; Polkanov, 1984; Palkina, 1990), simplified isotope composition of carbon (Kaminski et al., 1977).

The above-mentioned features unite diamonds of the Ukraine from stratigrafically and spatially isolated terrigenous deposits, but differences, characteristic of each diamonds group, and caused by their connection with corresponding original sources, have been established.

Diamonds from Upper Proterozoic collectors of Belokorovichsko-Ovruchskaya depression are characterized by combinational and rounded crystals mainly with blue-green photoluminescence, i.e., by a complex of features, showing kimberlite origin.

Diamonds from Carboniferous and Permian deposits of the folded Donbass south zone and the north-western part of Bakhmutskaya trough were ascribed to the same type. But diamonds from similar deposits of some areas of the south limb of the Main Donetzk anticline are, probably, connected with metamorphogenous original sources by prevalence of coloured cubes with red-orange photoluminescence among them. Complex of typomorphic features of diamonds, found from the same deposits in the north-west part of Donbass, shows their genetically mixed nature.

Among diamonds from Upper Poltavian and Sarmatian deposits of the Middle Pridneprov'e diamonds of all commercially important (lamproite-kimberlite, metamorphogenetic, impact), cosmogenous and problematic genetic types are present. Attached to diamonds of metamorphogenetic (north-Kazakhstan genetic type) and

problematic(lilac cuboids - still not having analogues in another diamindiferous regions of the world) origin form considerably bigger part.

Diamonds of Upper Neogene balt deposits(Middle Pobuzh'e and Middle Pridnestrov'e) are also poligenous. Among them green tetrahexahedroids with "dragged out" apexes, which a number of researchers identify with diamonds from sedimentary collectors of Brazil (Kaminski et al., 1977) are of a certain interest.

Thus, groups of the Ukrainian diamonds, separated regionally and chronologically, have certain typomorphic features. If for diamonds from Upper Proterozoic deposits of the north of the Ukrainian Shield(US) diamonds of kimberlite origin are characteristic, the role of cubic crystals from metamorphogenetic sources increases, beginning from Carboniferous deposits of Donbass. Maximum content of cubic habit diamonds(including lilac cuboids of a problematic origin) have been established on the western slope of the Ukrainian Shield in Neogene.

The above makes it possible to determine the direction of prospecting work in indicated regions of the Ukrainian territory.

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