

PROSPECTS OF THE UKRAINE TERRITORY DIAMONDFEROUSNESS.

Tarasuk¹ O.N., Chashka¹ A.I., Smirnov¹ G.I., Lebed² N.I.,
Knyazev¹ G.I.

1. The Ukrainian State Institute of Mineral Resources, 333620, 47/2, Kirov avenue, Simferopol, Crimea, Ukraine.
2. The State Ukrainian Committee on Geology and Mineral Resources Utilization, 34, Vladimirskaia street, Kiev-34, 252001, Ukraine.

The territory of the Ukraine as south-western margin of the Eastern-European platform is characterized by typical of all platforms structural-tectonic, magmatic and another features, characteristic of regions with revealed diamond-bearing kimberlites. Besides, diamonds within its limits have been established in terrigenous deposits of various age - from Upper Proterozoic to modern alluvium - in more than hundred places. With this, from Neogene sands of the Middle Pridneprovski region hundreds, and from one of operating placer - even thousands of mainly fine (less than 0,5mm) diamond grains were recovered. Garnet-pyrope has areal distribution in incomparably larger amounts, than diamond; lately, in association with garnet-pyrope picroilmenite, chrome-diopside, chrome-spinellid and magnesian olivine were found.

Among the Ukrainian diamonds all varieties, characteristic of known commercially important genetic types of native sources: kimberlites, lamproites, impactites and metamorphites were established. Kimberlites (the eastern Priazovski region) and impactites the western slope of the Ukrainian Shield) have been already found. There are prerequisites for revealing of lamproitic and metamorphogenous native sources.

The regions with good prospects are: the Eastern Priazovski region, the north-western and western slopes of the Ukrainian Shield (US).

In the relatively well-studied Eastern Priazovski region, within the limits of Petrovsko-Kumarovskoe kimberlite field, the knot of kimberlite bodies (3 pipes and 1 dyke) was established, and there are prerequisites for revealing of some more similar knots. Just here the basic amounts of geological-exploration work are concentrated. They are directed to:

- bulk sampling of already discovered and once again being discovered kimberlite bodies;
- large-scale (1 : 5000 - 2000) land geophysical investigations with the purpose of "pipe" type anomalies revealing;
- geological additional study (1 : 25000) for a closer definition of a field geological-structural positions;
- small- and large-volumetric sampling of the various age terrigenous deposits;
- experimental-methodical work in dispersion haloes of indicator-minerals in a revealed knot of kimberlite bodies with elaborating of optimal methods of heavy concentrate, fine- and large-volumetric sampling.

At the north-western slope of the US with its main structu-

re - Volyn'-Podolskaya plate(VPP), which is extremely long-term one, regarding revealing of diamond facies kimberlites (about which finds of their fragments in original heterogenous breccias give evidence at the north of Volyn' (1975 - 1976), but it is studied extremely unevenly with geological-geophysical methods, it is foreseen the following:

- restoration of the most long-term areas (Kukhotsko-Volynskaya, Dubno-Pelchanskaya and Middle-Prodneprovskaya) geological bases;
- preparation of the Middle Pridnestrovskaya area geological base;
- carrying out of general search for diamonds during geological survey and deep geological mapping.

The western slope of the US with its the most long-term region - the Middle Pobuzh'e - in spite of numerous and rather mass diamond finds in Neogene placers - has been studied insufficiently. Appearance of diamonds in finely classified sands of the Middle Pridneprovski region, diamonds and indicator-minerals of kimberlites in balt inequigranular deposits of the Middle Pobuzh'e and Middle Pridnestrov'e are connected with quite uninvestigated, regarding native diamondiferousness, dividing part of Berdichev uplift. It is more interesting because coincides with the most ancient Archean Block and, hence, the most long-term one, by Clifford rule (1965), for revealing of diamond facies kimberlites within the limits of the US. It is planned here:

- ensuring by necessary amounts of geophysical investigations;
- heavy concentrate, fine- and large-volumetric sampling during geological additional study of the area of watershed part of Berdichev uplift;
- generalization of all geological material on balt deposits with heavy concentrate-, fine- and large-volumetric sampling of their basal horizons and near-subterranean alluvium of channels, draining them.

The fulfilment of planned work will make it possible to progress substantially in decision of diamondiferousness problem of the Ukraine territory.

Clifford T.N. 1960. Earth Plan. Sci. Letts., 1, 421 - 434.