DIALECTIC TRANSFORMATION OF MINERALS IN VOROTILOV CORE, PUCHEZH-KATUNK ASTROBLEME, RUSSIA (PRELIMINARY DATA). Feldman V.I., Sazonova L.V., Korotaeva N.N., Guseva L.B. Moscow State University, Geological Department, Russia, 119899, Moscow. Budkov G.K., Scientific Manufacturing Society, Nedra, Russia, Yaroslavl.

Vorotilov core has been drilling in the central uplift of the Puchezh-Katunk astrobleme. Its depth is above 5.1 km at present time. Impactites are revealed in the rocks of the core beginning with the depth of 366 m: suevites (66 m), allogernic breccias (112 m) and authegenic breccias (deeper 544 m). These rocks are present by shocked-metamorphic gneisses, schists, amphibolites of Archean age and magmatic rocks (dolerites, olivinites and peridotites), which lie between them.

According to preliminary data intensity of the diaplectic mineral transformation in the crystalline rocks is decreased with 45-50 GPa to 15-20 GPa (at the depth of 4.0-4.5 km). The rocks of the upper part of the section are transformed more uniformly. In contrast we can observe unchanged plagioclase and maskelynite in the same thin section of the rocks from the lower section part. Sometimes the thermal metamorphism is superimposed on the shocked metamorphism. This fact is the reason of the impact glasses and diaplectic minerals recrystallization with the appearence of fine-grained granoblastic aggregates (often monomineralic). According to the result received with the help of SEM (Camscan with energy-despersive analyser AN-10000) non-isochemical character of the element migration process is often observed for intense diaplectic transformation. As the result of it the aggregate pseudomorphes are formed. They contain components lacking in the initial minerals. For example the shocked-thermal decomposed biotite is transformed into the plagioclase-titanomagnetite-glass aggregate; amphibole - into andesine-magnetite-clinopyroxene aggregate; garnet - into titanomagnetite-plagioclase-orthopyroxene aggregate. Also the process of diaplectic feldspar and diaplectic feldspar glasses formation is non-isochemical. K-rich, Na-poor diaplectic plagioclases and maskelynites and Ca-rich, K-poor diaplectic orthoclases (in comparison with the initial feldspars) are revealed. In both cases the cation deficit is observed in the diaplectic glasses and minerals testifying to their common carrying out relatively of aluminosilicate framework. So high mobility of the material is the peculiarity of the diaplectic transformation by the pressure more than 25-30 GPa.