

## CHARACTERIZATION OF IMPACT ROCKS FROM LARGE RING STRUCTURES

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A rock association formed under high pressure and temperature conditions is characteristic to large impact structures. They have a specific set of minerals and mineral associations which resulted from an impact and thermal transformation of the target rocks. Drilling of the Vorotilov Deep Well (H=5374 m) located in the central uplift of the Puchezh-Katunk large (diameter=80 km) impact structure which originated 175 mln. years ago in the European part of Russia indicated that the target rocks underwent an impact compression from 45-50 GPa at a depth of 500-600 m to 10-15 GPa at a depth below 5 km. Impact consequences are observed at macro- as well as micro-levels. Thermal metamorphism is not even. In some places thermal transformations took place at temperatures which exceeded the post-impact ones. Here there are the so-called coptoblastolites - completely recrystallized rocks with blastic structures and ataxitic textures. By composition coptoblastolites are isochemical regarding basic rocks of the target (gneisses and amphibolites). Impact and thermal transformations were a decisive factor which caused the change of physical properties of impact rocks. Compared with crystalline formations of the basement of the East-European platform the latter ones have higher porosity, anomalously high magnetic susceptibility and residual magnetization, lower values of bulk density, elastic wave velocities and heat conductivity.