

Geomorphological, geological and mineralogical evidences of impact origin of the Rabiga-Kul Lake Basin, Republic of Tatarstan

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Abstract

Isometric shape of the lake Rabiga-Kul, the ratio of its diameter and depth, the presence of the surrounding rim, the discoveries of cosmic matter in Quaternary sediments testify in favor of the impact origin of the lake basin on the border of the Pleistocene and Holocene. By means of microprobe analysis the microparticles of a size up to 20 nm were found. They consist of the native metals: iron, Nickel, tungsten, zinc; microspheres of magnetite, wustite, troilite, intermetallics, similar to those occurred at the well-known astroblemes on the Earth were found. The minerals of technogenic (?) origin, arc also present, the formation of which may be associated with the metallurgical production of the XI-XIII centuries around the ancient city Bolgar.

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