

Silicites as new gold abundant sediments and a perspective type of ore mineralization.

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The geochemical research of Tien Shan, made by the author, and the analysis of the neighbouring regions and the world data allowed to separate silicites as the third type of primary higher gold-bearing sediments, besides black shales and greywackes. They are a group of cherty rocks, composed of opals, chalcedonies, jaspers, iron quartzites, quartzelines of different forms of the occurrence, age, and host formations. For example, the content of gold is usually from 0.008 to 0.6 g/t in limestones C_1 (maximum in pyritized black varieties), from 0.004 to .5 g/t in jaspers Pz_1 (Kyrgyzstan, Kazakhstan); up to 5 g/t in iron quartzites PR_1 (Ukraine, Russia, USA), up to 85 g/t in modern opals near the hydrothermal springs of New Zealand, Australia, USA.

Even these primary sediments, especially modern opals and ancient cherts can be considered as gold ores. So, the cherty tuffaceous sediments near the extinct volcano Takwa in Africa contain 50 t of gold. Accumulations of recent gold-bearing opals may also be presented as rich small deposits.

There are economic deposits, which were formed in the place of metal-bearing silicite as a result of redistribution of their substance under the influence of endogenic processes. For example, dynamic metamorphism has created rich gold ores in the deposits of Minas Gerais in Brazil (Morro Vello, Raposos), contact metamorphism and metasomatism of gold-bearing cherty carbonate sediments formed the economic ores of the Makmal deposit in Kyrgyzstan, which is being operated now. In shear zones in Wyoming (USA) plots with gold grade 24 g/t were found. Special research is necessary to open the potential of the described depositions.