Role of black shales and basitic rocks in formation of Pre-Cambrian near-fault carbonate-alkaline metasomatites of the Baltic shield

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The author gave grounds of formational independence of uran-bearing near-fault carbonate-alkaline metasomatites developed at many shields (Ukrain, Baltic, Canadian, Sino-Corean, Brazilian) with age ~1.8 Ga. Geologic specific character of their development exactly at the Baltic shield (Karelia) is caused by localization not in granitoids of anticlinorium structures but in riftogenic depressions (Onezhskaya, Kuolayarvinskaya) in composition of which black-shale complexes and basitic rocks are available.

The peculiarities of the unique U-V-PGE mineralization of Karelian metasomatites are: high V, Cr content in typomorphic minerals of albitites - riebeckites, aegerines, phlogopites; wide spectrum of accompanying uran minerals - selenobismuthides, vanadates, precious metals, including Pd, Pt.

Ore-forming fluids are connected with basitic source. The regionally showed preore-forming carbonic metasomatism is the evidence of draining these geological structures by reduction mantie fluids. It is corroborated by mineralogic, geochemical and isotopic dates.

The derivatives of this source are: 1) basitic rocks and carbonaceous (schungite shales, lydites) components of Low Proterozoic deposits of riftogenic Onega depression; 2) laminated basitic PGE-bearing intrusion in the edges of this structure as well as sills and dykes within it; 3) juvenile alkaline-carbonic-acid fluids, which formed hydrothermal-metasomatic U-V-PGE mineralization.

Nowadays there is a tendency to relate the underconsideration Karelian mineralization to so-called "black-shale" type, that is not rightful in author's opinion. The availability of black slates and basitic rocks in ore fields proves obout good perspectives for the complex mineralization in regions.