

## **Large gold and platinum deposits associated with black shales in Kazakhstan**

**RAFAILOVICH M.S.** Kazakh Institute of Mineral Resources, Almaty, Kazakhstan.

Black shale formation is a remarkable feature of geology of many gold and platinum deposits in Kazakhstan. Ore potential and functional possibilities of black shale terrains are defined by geochemical specialization, physical-chemical properties and dislocation of constituent rocks and also by intensity of the superimposed hydrothermal-metasomatic processes.

Carbonic-terrigenous strata perform different functions in syngenetic and epigenetic ore-forming processes: as a resource (as a source of valuable components), a transporting function (organic matter and sulphur of black shales are the agents required for mobilization and transportation of ore components), as a barrier (a physical-chemical barrier on a path of ore-bearing fluids), a structure-forming function (favorable environment for generation of fractured zones, screens and thrusts).

The following stratigraphy levels of the localization of the precious metals occur in black shales: PR<sub>3</sub> – magmatogene-hydrothermal gold-sulphide-quartz stockwork deposits of the Vasilkovsky type; O<sub>2</sub> – hydrothermal-metamorphogenetic disseminated platinum objects of the Tekeli type; O<sub>3</sub> – hydrothermal gold-sulphide-quartz vein objects of the Akbakay type; C<sub>3</sub> – hydrothermal-metasomatic complex gold-platinum-sulphide stringer-disseminated mineralization of the Bakyrchik type.

Discussed types of gold and platinum deposits have numerous and expressive features of similarity: close connection with deep-seated structures, mantle or combined crust-mantle origin of ore matter, predominant femic specialization of ore components, multi-stage formation of minerals.