

The main geological-industrial types of gold deposits in East Kazakhstan(Article)(Открытый доступ)

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**Purpose.** To characterize leading geologicalindustrial types of gold deposits within Kazakhstani part of the Great Altai. **Methodology.** Field studies are within proper gold ore and orebearing deposits. Sampling is carried out for defining chemical composition and regularities of basic ore minerals and impurities distribution. Microprobe analysis by using a scanning election microscope JSM 6390LV, comparative analysis of ore mineralization were applied at the studied deposits. **findings.** Gold ore deposits of the Great Altai were formed within the period from the end of Riphean to the end of Phanerozoe time in different geodynamic conditions. The most productive ones are O3, D12, C and K2 age boundaries. Island arc, ensimatic, ensialic, volcanogenicsedimentary and collision environments are of great interest for gold mineralization. The most important sources of gold mineralization within the Great Altai are goldbase metals, goldquartz, goldsulphidequartz deposits. Part of medium and small deposits can be transferred to the higher rank after additional evaluation. Moreover, prerequisites for discovering new deposits are far from being exhausted in traditional ore mining regions. Complex goldbase metals (polymetallic and copperleadzinc) deposits of Rudny Altai belt also have high content of associated gold and silver. **originality.** The research novelty is in using of highly precise methods for studying ores and host rocks that can be used for the development of lowcost technologies for qualitative evaluation of gold ore deposits that were formed in different geodynamic conditions and time intervals on the basis of mineralogical sampling method, topomineralogy method, which enables one to solve the task of replenishing mineralraw materials of precious metals in Kazakhstan. **Practical value.** For the last 15 years there has been a clear tendency towards increase in the world demand and gold production. Although the world gold reserve base features abundant types of deposits, development of gold mining has slowed down in Kazakhstan since 1990-s due to depletion of the richest and favorable deposits, decrease in gold raw material quality, and increase in negative impact on the environment. Extra study on the known gold ore objects, search for gold deposits from the aspect of integrated development imply the aim of overall accounting of basic and secondary components when all the stages of operation are carried out - ranging from geologicalestimating and to operational exploration. Nowadays, uptodate technologies of concentration, and development methods enable to refer these deposits to the objects of primary commercial exploitation. Their studying has scientific value in the issues of endogenetic mineralization and creates prerequisites of discovering new perspective areas and deposits in Kazakhstan. © Mizernaya M. A., Miroshnikova A. P., Pyatkova A. P., Akilbaeva A. T., 2019