GEOLOGY OF TIEN SHAN ORE DEPOSITS

1AKBAROV H.A., 2BESPAEV KH.A., 3ZHAUTIKOV T.M. 1.Department of Sciences on Earth of Academy of Sciences of Republic of Uzbekistan, 2 and 3 - Institute of Geological Sciences of Kazakhstan, Almaty, Kazakhstan

Tien Shan is characterized with complicate geological structure, peculiarities of tectonic developments, magmatism and metallogeny. Many scientists have investigated ore deposits geology of this region. According to features of development, age of folding, types of mineral deposits and magmatism peculiarities most of them divide Tien Shan into three geotectonic districts: The Northern, The Median and the Southern. The boundaries between them are regional deep folds Nikolaev Structure Line, Nurata-South-Ferghana Fault, etc. The Northern Tien Shan is one of the Baikalian-Caledonian folding structures. Tien Shan pre-Caledonian basement consists of gneisses, mica shists, amphibolites and marbles of the Early-Middle Proterozoic and rather low metamorphosed geosyncline Riphean series, granitoids plugs as well. The Median Tien Shan is located between Caledonides of the Northern and Hercynides of the Southern Tien Shan. There are three structural stages in pre-Mesozoic series columns. Kurama, South Gissar and Alai-Kokshaal districts are distinguished within the Southern Tien Shan. The main rock formations of Tien Shan are: terrigenous, carbonaceous, carbonaceous-terrigenous, volcanic and plutonic. Ore deposits and their reserves are distributed irregular. The bulk of iron, tungsten and tin ores are concentrated within contact-metamorphic rocks, copper - in plutonic rocks, gold - in shists and volcanites, mercury - in carbonaceous rocks. Whereas some economic deposits with connection of certain formations are absent (iron, copper and molybdenum deposits - in carbonaceous and carbonaceous-terrigenous series, mercury and antimony - in plutonic rocks). Certain ore types are formed economic deposits within majority of formations (lead, zinc, fluorite), although favorable conditions of rocks are different (about 50% of lead-zinc ores reserves are located in skarn and the largest pert of gold reserves is connected with shists series. Ratio of total reserves to quantity of ore fields and deposits is determined their comparative scales. The largest deposits are located within plutonic, carbonaceous-terriygenous, shists formations and contact-metamorphic rocks(skarn) as well. Characteristic metallogenic features of formations are remained rather stable in various geotectonic zones. This is indicated of certain connections between mineral composition of rocks - on the one hand, and mineralization type - on the other hand.