

## **GRANITOIDS OF THE EAST-SIKHOTE-ALIN VOLCANIC BELT AND ASSOCIATED BOROSILICATE AND TIN-POLYMETALLIC MINERALIZATION**

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Widespread granitoid magmatism closely related with volcanism is characteristic of the continental surrounding of the Pacific Ocean. This allowed distinguishing a volcanic association among the intrusive rocks and to call this community as a volcano-plutonic formation. Granitoids of the East-Sikhote-Alin volcanic belt are the magmatic formations of such type. There are three groups of the granitoid bodies crystallized at 3km depth, which are distinguished in petrological features. Intrusives of the eastern part (Japanese Sea coast - group 1) occur as large (tens km) many-phase bodies composed of equigranular diorite-granodiorite-granite rocks magnetite series crystallized at 650-750°C. Massifs of the central part (group 2) and western part (group 3) are one-phase and composed of porphyry-like rocks (ilmenite series) crystallized at 750-850°C and 800-900°C, correspondingly. They form small bodies accompanied by borosilicate and polymetallic (central part) and tin-polymetallic (western part of the belt) deposits.

Differentiation degree of initial melts decreases and depth of magma generation increases from east to west: from many-phase coastal massifs via one-phase (group 2) ones to one-phase poorly differentiated magmatic bodies of monzodiorite-granodiorite composition (group 3). The distinguished intrusive groups differ radically by the crystallization dynamics. More deep-seated and high-temperature melts (western part of the belt) were crystallized under the conditions of the open system and accompanied by rapid fluid exsolution, providing high ore-generating capacity of fluids. The intrusives of the eastern group, containing 3% mass H<sub>2</sub>O, were crystallized under the conditions of the closed system without depressurization, providing the formation of equigranular rocks with microdiorite autoliths, pegmatites, and rhythmically banded zones.