

PLATINIFEROUS BELT OF THE URALS (RUSSIA) - GEODYNAMIC MODEL OF PT DEPOSITS GENERATION

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Platiniferous Belt situated in the West of Tagil volcanic megazone and consists of 1000 km chain of 14 massifs, formed by dunites, clinopyroxenites, olivine gabbro, gabbro-norites and granitoides. Pt-mineralization connected with dunites, often with chromite segregation. Two generations of PGE-minerals can be distinguished: the early (isoferroplatinum, often with inclusions of iridosmine, osmiridium, PGE-sulphides) and the later one (tetraferroplatinum and tulameenite). We are developing the hypothesis that Belt consist of island-arc formations - melts of different depth generated above subduction zone (Main Uralian Fault). The Belt rocks show a similarity with xenoliths from modern island-arc basalts, and gabbro-ultrabasite complexes of Pacific rim. The age of the Belt (420-430 Ma - K-Ar, Sm-Nd, U-Pb - data of Ivanov, Kaleganov, Ronkin, Schmelev, Bosch et al.) coincided with the age of disposed eastward of the Belt Immenovsk island arc volcanic formation, which defined by conodonts as Llandoveryan - Wenlockian boundary. REE trends of Immenovsk formation and calc-alkaline gabbroids of the Belt are similar. These facts prove a comagmatic character of intrusive and volcanic members of Tagil island arc terrain. Widely displayed in the Belt metasomatism and water metamorphism of amphibolite and green-schist facies, development of mafic-ultramafic pegmatites caused by flow of fluids (primary - oceanic water), raising from subduction zone. These fluids caused the noted by Y.Volchenko migration and redistribution of the platinum, including PGE deposits generation.