
Main Metallogenical Features of the Bregu i Bibes Deposit, Tropoja Ultramafic Massif, Albania

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The paper treats the evolution of scientific views for searching and evaluation of PGM and brings data on the geological setting of Tropoja ultramafic massif and metallogenic characteristics of Bregu i Bibes PGM deposit. The exploration for PGM carried out during many years have determined several target areas, of which Bregu i Bibes, is the most important one. The Bregu i Bibes PGM are very distinguished not only in the Albanian ophiolites but all over Mediterranean domain. The Tropoja ultramafic massif is located at NE part of Albanian ophiolites, extending over 430 km². The massif comprises mantle sequence with tectonite and cumulates consisting of dunite, pyroxenite, gabbro, etc.

The PGM occur both as economic concentrations as well as accessories at chromitite ores. In the tectonite section in close association with chromitites is Ru+Ir+Os mineralization; in the chromitites of the transition zone Pt+Ru+Ir mineralization, whilst Pd and Rh occur in trace amounts. The main PGM mineralization occurs in a

cumulate section varying from 100 m to 300 m in thickness, with the Bregu i Bibes mineralizations in the serpentinite-pyroxenite interface. The Bregu i Bibes ore bodies are located along serpentinite-pyroxenite boundary (cumulate section) varying in thickness from 60 to 100 m. The above rocks have a consistency along the strike and down dip within which are developed ore bodies as layers or lenses, extending in strike up to 200 m and down dip 20 m to 40 m to 150 m, with a thickness from 1 m to 10 m and more. The content of PGM in the above ore bodies varies from 1-7 ppm and in some cases up to 27 ppm. Wall rocks with a thickness up to 20 m contain 0.4 ppm to 1.0 ppm PGM. Quantitatively, the PGM content at Bregu i Bibes is as follows: PGM alloys with Fe, Cu=74.5 %; Laurite= 12.5%; Osmium=3%, other alloys 10% (mainly isoferroplatin =44%; tetraferroplatin =40%; FePt₂ =8.5%; PtCu₃ =2%; others 5.5%).

The genesis of Bregu i Bibes mineralizations is interpreted to be magmatic, distinguished by the presence of Pt-Fe alloys.