Previous Record | Next Record | < | <<

--- 6 of 6 matches to query: FIND ("Author" ct Tasev)

Title Complex gold mineralizing system of the Plavica deposit, R. Macedonia

Author Serafimovski, T.; Tasev, G.

Author Affil Serafimovski, T., Department of Mineral deposits, Faculty of Natural and Technical Sciences, University " Goce Delcev"-Stip, str. Goce Delcev 89, The Republic of Macedonia

Source International Geological Congress, Abstracts = Congrès Géologique International, Résumés, Vol.35; 35th international geological congress, Cape Town, South Africa, Aug. 27-Sept. 4, 2016. Publisher: [International Geological Congress], [location varies], International

Publication Date 2016

Notes In English

Abstract The geological setting of the Plavica deposit, a part of the complex Kratovo-Zletovo volcanic area [1], comprises ignimbrite, stratified volcanic tuff and breccia, dacitic andesite and their pyroclasts, and quartz latites. In addition to large faults, there are abundant ring-like structures and structures hosting intrusive dikes produced during episodic Tertiary magmatism. High-sulfidation epithermal gold has been identified and studied in the Plavica deposit. Epithermal gold and associated mineral phases have been determined in silicified tuff, secondary quartzite, quartz-pyrite-enargite veins, and mainly disseminated within an altered, but mostly silicified volcanic sequence. Higher Au concentrations at the Plavica deposit are related to the silica bodies, which is characteristic of numerous high-sulfidation epithermal deposits around the world, and the orebodies at Plavica are particularly similar to those at the Summitville deposit in the USA [2], especially in regards to their variable geometry with depth. Presence of an advanced argillic alteration indicates a low pH of the ore fluid and intense leaching. Sericitic alteration is present at the Plavica deposit, but its occurrence is separate from the advanced argillic alteration at greater depths and in the central parts of the deposit. An advanced argillic alteration and massive silica bodies, which enclose sericitized zones in the Plavica deposit, suggest a genetic model similar to that at the Rodalquilar deposit (Spain), where hydrothermal fluid became cooler and more acidic (by inclusion of dissociated magmatic SO2) upwards [3]. High-sulfidation deposits are typically located at the top of porphyry copper deposits (e.g., Lepanto-Phillipines) and it is thus not accidental that fluids in those systems are brines and sometimes rich in CO2 (Figure 1). Fluid-inclusion data from the Plavica deposit provide evidence for direct inflow of a magmatic fluid between boiling episodes of the hydrothermal fluid [4]. Exploration drill holes at Plavica intersect Cu-sulfides, magnetite, and traces of molybdenite in areas of sericitic alteration, and geophysical data justify the concept that the deeper parts of the Plavica system lie adjacent to a porphyry copper system (Figure 1). Figure 1: Schematic genetic model of the Cu-Au-polymetallic deposit Plavica The model for the Plavica deposit suggests that at higher volcanic levels the stuctural-lithological setting allowed transport of magmatic fluids from magmatic reservoirs, through zones of crushing, brecciation, intense faulting, and fracturing, up to sub-volcanic and volcanic levels. This formed classic vein type high sulfidation epithermal Cu-Au mineralization and shallower disseminated gold zones related to "vuggy"-sinter quartzites. Copper and polymetalic vein mineralization at certain hypsometric levels (Figure 1) are also products of the evolution of the magmatic-hydrothermla system.

Publication Type conference paper or compendium article

Record ID 0784655036

New Search