Is the Zabrnjica Prospect on Ober License in Southwestern Serbia a Previously Unrecognized Reduced Intrusion Related Gold Systems (RIRGS)?

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Exploration work conducted by Konstantin Resources on its 100% owned Ober exploration licenses within the Priboj Project area in southwestern Serbia, revealed to date unrecognized Au mineralization in this part of the Serbia (Janković & Petrascheck, 1987, Janković, 1990, Janković et al., 1992, Janković et al., 2003, Jelenković, 1999). Ober exploration licenses occupy central eastern limb of the Javorje anticline comprising undifferentiated Devonian/Carboniferous schists and meta sandstones in the core and undifferentiated Permian/Triassic meta sandstones and conglomerates occurring on the flanks of the anticline in contact with Jurassic Ophiolite complex. Field work to date including geochemical work of stream sediments, soil and rock chip sampling indicated presence of gold in the undifferentiated Perm-Triassic clastic sediments. This gold mineralization is associated with silica-sericite altered terrigenous sediments, predominantly sandstones and conglomerates with quartz veining that are partially leached. Zabrnjica prospect is most prominent prospect at the Ober license and main focus on exploration activity on Ober license to date.

Reduced Intrusion Related Gold Systems (RIRGS) are associated with the ilmenite intrusive series plutons forming in weak post-collisional extension behind a thickened continental margin tectonic settings and emplacement of depth between 3 and 8 km. These systems are characterized by arrays of sheeted quartz veins where gold bearing fluids are Au-Te-Bi complex. (Thompson et al., 1999; Lang et al., 2000; Lang and Baker, 2001; Hart et al., 2002; Baker et al., 2005, 2006; Hart., 2007; Hart., 2024).

Reviewed field observation along with the geochemical signature of the soil and rock samples raised working hypothesis that Zabrnjica prospect can be previously unrecognized RIRGS and therefore attempt was made to compere Zabrnjica characteristic with the genetic characteristic of the RIRGS and known deposits of the group.