

Gold Metallogeny of the Southern Swayze Greenstone Belt: A Comparison to the Abitibi

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The southern Swayze greenstone belt (SGB), located approximately 40 km west of Shining Tree in northern Ontario, represents the southwestern extension of the Abitibi greenstone belt (AGB). Years of mineral exploration and prospecting have led to the general consensus that the SGB is not as richly endowed as the AGB, yet the SGB and AGB share similar lithologies, stratigraphy, and deformation history. The 'Rundle high strain zone' and the 'Ridout high strain zone', extend across the central and southern portions of the SGB, and represent two gold-rich fault systems that are candidates for the westward extension of the Cadillac-Larder Lake deformation zone. Both of these high strain zones show spatial and temporal relationships to Timiskaming-like rocks and gold mineralization. Therefore, these latter relationships together with the presence of the recently discovered world-class 2740 Ma intrusion-related Côté Gold deposit (indicated resource of 7.6 M oz. as of February, 2012) collectively suggest that the SGB may be as prospective as the AGB and offers an opportunity for new insights into Archean gold in a belt that is presently underexplored. To further our understanding of the Au metallogeny of the SGB, two deposits, the Jerome and 4K deposits, that constitute part of a regional Au metallogenic study of the SGB are discussed. The Jerome deposit is located within the Ridout high strain zone \approx 20 km along strike ENE from the Côté Gold deposit. Given that this deposit is hosted in Timiskaming-like rocks that are cut by felsic porphyries, and is spatially related to a major deformation zone, it has obvious analogies to gold mineralization in the AGB, in particular Kirkland Lake area. The 4K deposit, located in a southern lobe of the SGB, represents epigenetic-type Au mineralization. In this case, Au occurs proximal to gr-grt-amph layers within banded iron formation, which is an important Archean-age Au deposit type globally (e.g., Musselwhite, Beardmore-Geraldton, Homestake). Despite the similarities between the SGB and the AGB, their gold endowments vary considerably and it is the goal of this project to determine reasons for this.