

Archean Gold Mineralization at the Kenty and Rundle Deposits, Swayze Greenstone Belt

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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). Historic mineral exploration and prospecting have led to the consensus that the SGB is not as richly endowed as the AGB, even though the SGB and AGB share similar lithologies, stratigraphy, and deformation history. The 'Rundle high strain zone' extends across the central portion of the SGB, and represents a gold-mineralized fault system that is a candidate for the westward extension of the Cadillac-Larder Lake deformation zone. To advance our understanding of the Au metallogeny of the SGB, two deposits, the Kenty and Rundle, along the 'Rundle high strain zone' are discussed. The Kenty deposit is represented at surface by several showings with visible gold and significant assay values. The deposit is hosted by pillow basalts that are cut by quartz-feldspar-ankerite veins, some of which are sheared. Questions remain on the relationship of gold to pyrite, the timing of gold formation, the nature or type of the gold deposit, and how it fits into the overall evolution of the SGB and thus how it compares to gold in the AGB. Twenty km to the east of the Kenty area, the Rundle deposit shows a very different style of gold mineralization. Here the gold is associated with early fracture-filled pyrite that is locally folded and thus predates deformation or shearing. The early timing and close association of mineralization to different types of feldspar porphyry dykes suggest that the mineralization is intrusion-related, and therefore is analogous to gold mineralization in the Kirkland Lake mining camp of the AGB. Future work on the Kenty and Rundle gold deposits will focus on characterizing the nature of the gold mineralization, the host rock types, alteration assemblages, structural controls, and relative timing of the mineralization in order to properly classify these deposit types and determine how they fit into the overall evolution of the SGB.