

margins of chlorite + sericite- and sulphide-bearing stylonitic or laminated, “fault-fill” quartz veins. High gold concentrations correlate with increased volumes of pyrite and arsenopyrite, but not necessarily rare chalcopyrite, galena and sphalerite. Vein proximal alteration occurs as bleached, irregular anastomosing zones in siltstones and mudstones, with bleached, spotted zones commonly occurring up to 10–15 m outward from the veins. Alteration in sandstone is more visually cryptic but largely comprises sericite-chlorite-carbonate-albite replacement of the matrix. VIRS spectrometry, petrographic analysis and electron microprobe studies indicate that the alteration assemblage is dominated by Fe-chlorite + sericite + Ca(Fe)CO<sub>3</sub>, whereas albite and or Ba K-feldspar occur locally near veins.

Our observations suggest a turbidite-hosted-style of mineralization involving close interaction between progressive tectonism and episodic flow of orogenic fluids. Complex, multifarious relationships between the auriferous quartz veins, mafic dykes, breccia zones and, the numerous orientations and bulk compositions of quartz veins attests to the multiphase nature of deformation, crack-conduit propagation, mafic magma injection and the infiltration of Si-CO<sub>2</sub>-Fe-Na-K-Cl-As-Au (± others) charged fluids. Investigations using <sup>40</sup>Ar/<sup>39</sup>Ar geochronology, litho-geochemistry, mineral geochemistry, fluid inclusion and stable isotopic studies are ongoing. These will examine the relationships between the vein systems (mineralization) and may provide a vector towards more extensive gold mineralization.

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**The setting of orogenic, auriferous quartz veins at the Jaclyn Deposit (Golden Promise), central Newfoundland**

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The Jaclyn Zone gold deposit (89,500 contained ounces of gold: NI-43-101F1-compliant), also referred to as the Golden Promise Deposit, is located ca. 10 km southwest of the community of Badger, central Newfoundland in the Exploits sub-zone of the Appalachian orogen. Although bedrock is poorly, an extensive new industry and government database indicates that the deposit comprises a series of en-echelon-style, east to east-northeast-trending auriferous quartz veins hosted near the shale-sandstone transition in the uppermost sections of the Exploits Rapids formation (aka, Upper Stanley Waters Formation) of the Victoria Lake Supergroup. The veins were emplaced, coplanar and contemporaneously with a suite of regionally extensive, subalkaline tholeiitic basaltic dykes. The vein systems occur in the hinge zone of a regional, 2–3 km wavelength, shallowly NE-plunging, SE-inclined, non cylindrical regional F2 (Salinic?) fold of volcanogenic sedimentary rocks of the Exploits Rapids formation, Lawrence Harbour Formation (Caradocian shale) and overlying Badger Group siliclastic sedimentary rocks. Gold occurs as 0.25–3 mm blebs in vuggy cockscomb-textured quartz, but more typically in the