

GAC CORDILLERAN SECTION

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Exploration Series Morning Talks

Tuesday, December 3, 2019

8:00 am: Registration – Networking

8:15 am: Presentation begins

**Discovery Center, Geological Survey of Canada
1500 - 605 Robson Street, Vancouver, BC**

Cost: \$5 – Pay at Door – Coffee & muffins provided

RSVP: space is limited; please pre-register by email at: talks@gac-cs.ca

Georgie River Mine: a forgotten and underestimated piece of B.C.'s Golden Triangle jigsaw

**Discussion Leader: Paul Metcalfe, PhD, PGeo,
Director and Vice President of Exploration, Auramex Resource Corp.**

The Georgia River Mine is located 16 km south of Stewart on Portland Canal tidewater in the southern part of B.C.'s Golden Triangle. The immediate area of the mine was previously interpreted as a pendant in the Coast Batholith, but regional studies by the Geological Survey of Canada (1999-2004) showed that it is contiguous with the rest of Stikinia. In the same studies, volcano-sedimentary rocks previously correlated with the Hazelton Group were proposed as correlative with the late Triassic Stuhini Group. Most importantly, intrusions previously identified as Eocene returned isotopic ages indicating that the area is underlain by an Early Jurassic polyphase volcanic and intrusive complex correlated with the metallogenic Texas Creek Plutonic Suite, as well as by dykes of the Eocene Coast Batholith.

Property-scale studies by Auramex (2010-2019) confirmed that the mine is hosted by augite-phyric volcanic and volcanic-derived sedimentary rocks, folded with northeast vergence and then intruded by an Early Jurassic intermediate intrusive complex of considerable size. This complex is located at the intersection of northerly- and easterly-trending regional topographic discontinuities interpreted as the surface expression of deep basement structures within Stikinia. The mine itself lies in the footwall of a southwest-dipping regional structure which lies parallel to the axial planes of northeast-vergent folds in the Triassic strata. Smaller, parallel structures host low-grade mineralization in the mine. Kinematic indicators noted during surface mapping indicate that these structures were re-activated with dextral sense following the early Jurassic intrusive events and probably coeval with mineralization. North-northeasterly trending dilational veins in the mine suggest that the mineralization took place during or immediately after a transition from transpressive to transtensional stress.

The host stratigraphy, structural setting and mineralization of the Georgia River Mine area are nearly identical to that identified in the late 1980s and early 1990s at the SNIP deposit on Johnny Mountain, nearly 120 km to the northwest, indicating that the style of these metallogenic events is regional. Moreover, the style of mineralization at the Georgia River Mine indicates that the latter represents only a small high-level expression of an extremely large gold-bearing hydrothermal system. This system has received minimal exploration except in the immediate area of the mine and is entirely untested anywhere at depth.



Dr. Metcalfe is a volcanologist and exploration geologist whose 40-year career integrates experience with major, mid-tier and junior mineral exploration companies, the Geological Survey of Canada, B.C. Geological Survey Branch and U.B.C.'s Mineral Deposit Research Unit. He has focused predominantly in the Cordillera of North and South America and on intrusion-related gold systems; his experience in the Golden Triangle spans three decades of regional to deposit-scale geology in the Iskut River, Eskay Creek and Stewart camps. Dr. Metcalfe holds a B.Sc. (Honours) in Geology from the University of Durham, an M.Sc. in Geology from the University of Manitoba and a Ph.D. in Geology from the University of Alberta. He is a Professional Geoscientist (P.Ge.), registered in BC..