

# SEG 2024 Conference: Sustainable Mineral Exploration and Development

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## Valley – A High-Grade Reduced Intrusion Related Gold System in Yukon, Canada

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Valley is a significant new Reduced Intrusion-Related Gold System (RIRGS) discovery in the Selwyn Basin of the Yukon Territory (Canada). Since 2021, Snowline has delineated a 700 m x 500 m mineralization footprint from surface up to 450 m vertical depth with drill hole intercepts up to 2.5 g/t Au over 553.8 m from surface, including 132 m of 5.0 g/t Au also from surface.

The Valley stock is an elongate 1 km x 800 m mid-Cretaceous Mayo-suite multi-phase granodiorite hosted in siltstones and shales of the Ordovician-Silurian Road River group. The granodiorite is surrounded by a pyrrhotite-rich contact-aureole and hosts a high density of gold-bearing sheeted quartz+carbonate-scheelite veins with up to 30 veins per metre. The sheeted veins are sulphide poor (<5% ) with minor pyrite, pyrrhotite, chalcopyrite and arsenopyrite. Texturally, visible gold is related to bismuthinite, scheelite and telluride minerals consistent with Bi-Te pathfinder element associations present in surface geochemistry. Veins are dominantly controlled by steep northwest-striking faults, though veins are known to occur in at least three structurally-controlled orientations. Locally, high grade mineralization appears to be spatially associated with a fine-grained porphyritic phase.

Valley is part of the Tombstone Gold Belt (TGB), a trend of RIRGS deposits that include Kinross' Fort Knox and Victoria Gold's Eagle mines. Compared to these two active sites characterized by average production and reserve grades well below 1 g/t Au, Valley's intercepts are multiples above what is currently being profitably extracted in the TGB. Situated in the underexplored eastern part of the TGB, Valley is the focus of exploration activities within Snowline's Rogue Project, which covers a 30 km by 60 km magnetic geophysical anomaly associated with mid-Cretaceous intrusions of the Rogue Plutonic Complex (RPC). In addition to Valley, the RPC hosts numerous underexplored intrusions with high potential for further RIRGS discoveries.