

The Tibbs Gold Project – Mineralization Styles and the Gneiss Frontier

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The Tibbs Gold Project is located in the Goodpaster Mining District approximately 175 kilometres southeast of Fairbanks, Alaska, and 35 kilometres east of the Pogo Mine. The property is comprised of 169 State of Alaska mining claims covering ~13,000 acres with at least 25 known target areas and historic lode gold production in three locations. Tectonic's recent lease of the Carrie Creek property, comprised of two blocks of land contiguous with the Tibbs property to the north and south and owned by Doyon, Ltd., an Alaska Native regional corporation, adds an additional 15,800 acres to the land position.

Tibbs is located within the Black Mountain Tectonic Zone (BMTZ), a district-scale northeast trending structural corridor centered on the project area. Mineral prospects occur along the western boundary of the mid-Cretaceous Black Mountain intrusion, and where it is in contact with Devonian biotite gneiss and augen gneiss to the west. In the property area, the BMTZ occurs as a series of northeast to north-northeast trending normal and left-lateral high-angle strike-slip faults. The Black Mountain intrusion is comprised of biotite granodiorite with lesser andesite porphyry. A late biotite-hornblende diorite dyke crosscuts all units, and marks much of the west margin of the intrusion.

Two styles of gold mineralization have been observed at the project: "proximal" Au+Bi±As±Te±W mineralization in quartz veins at the Gray Lead and Hilltop/Oscar prospects, and "distal" Au+As+Sb mineralization in quartz veins and wall rock disseminations at the Michigan, Blue Lead, Grizzly Bear, Upper/Lower Trench, O'Reely, and Wolverine prospects. Several of these prospects host both styles of mineralization in the same structure, suggesting multi-phase mineralization took place. At the Gray Lead prospect, a quartz-arsenopyrite ± pyrite ± bismuthinite ± jamesonite vein attaining widths of up to 4 metres was formed at temperatures from 260 – 455 °C, and pressures of not less than 1,700 bar. The vein appears to extend roughly along the western contact of the Black Mountain intrusion at the Gray Lead prospect. In the east of the project, quartz-stibnite-arsenopyrite veins and stockworks are found within sericitized granodiorite, notably at the > 1 km long, northeast trending corridor which defines the Michigan prospect. Both styles of mineralization are believed to represent a single intrusion-related gold system, with a deeper, hotter, higher-pressure setting for Gray Lead-style mineralization, and a higher-level, cooler, lower pressure, outboard setting for mineralization at Michigan.

Historic exploration work dominantly focused on finding mineralization similar to that found at the Pogo Mine – high grade gold-quartz veins found within reactivated low-angle thrust faults. At Tibbs, work focused on the Gray Lead vein, which exhibits near-identical mineralogy, geochemistry, orientation, and fluid characteristics as the North Zone veins at Pogo. Recent work by Tectonic has focused on testing high-grade gold values found in rock and trench sampling at surface throughout the Tibbs property, regardless of mineralization style or model. At the Michigan target, Au-As-Sb mineralization was found to contain significant grade and thickness, with a highlight intercept of 6.03 g/t Au over 28.95m, indicating that "distal" Au-As-Sb quartz stockwork veining and disseminated sulphide mineralization could also support high grades.

Both “proximal” (Gray Lead: Au+Bi±As±Te±W), and “distal” (Michigan: Au+As+Sb) styles of mineralization are currently known to be controlled by high angle faulting within the Black Mountain Tectonic Zone. Notably, exploration work has been confined to the main structural corridor, without stepping outside of the corridor. Along the western margin of the BMTZ lies a dome of Devonian gneisses – rocks similar to those which host the Liese veins at the Pogo Mine. These gneissic rocks have received little exploration work despite sitting adjacent to a structural corridor which exhibits high levels of fluid flow as defined by soil, rock, and drill core/chip geochemistry. In addition, low-angle thrust faults have been mapped within the gneissic rocks – an analogous structural setting to Pogo’s Liese veins. Recently announced high-tenor Au-As-Bi-W soil anomalies within the gneisses, west of the previously known targets and delineated this past field season, point to the “gneiss frontier” as a high-priority exploration target at the Tibbs property.

