

1. SUMMARY

The main objective of the prospecting programme at Renison East was to establish if an ore deposit similar to that at the Renison Bell Tin Mine exists on the property. There, stanniferous mineralisation occurs as metasomatic replacement of carbonate beds, as vein filling in fault zones with wall rock replacement and as veinlets and disseminations in quartzite.

The work programme comprised geological mapping, soil sampling of cut grid lines, heavy concentrate sampling of major water courses and geophysical surveys in the form of induced polarisation, Crone shootback EM, self potential and ground magnetic measurements. Costeans excavated by bulldozer were geologically mapped and rock chip sampled.

The mapping has defined a tightly folded turbiditic sequence of clastic, arenaceous and argillaceous rocks with mafic volcanics, intruded by ultramafic-mafic complexes. The rocks are assigned to the Lower Cambrian Crimson Creek Formation. They are overlain, apparently unconformably, by a sequence of black shale, siltstone, arkose and acid pyroclastics of the Middle Cambrian Dundas Group. The succession is thought to be indicative of rapid, intermittent deposition in a fault controlled, elongate trough like basin. Dolomites, cherts and quartzites which characterise the shallow water shelf-like sequence at Renison Bell do not appear to outcrop on the property.

The styles of mineralisation observed within rocks of the Crimson Creek Formation result from the introduction of hydrothermal fluids into permeable beds, along fault planes and in anticlinal axial zones. The sources of the solutions are thought to be adjacent Devonian adamellite bodies with the faults acting as conduits. Fissure vein type of deposits in rocks of the Dundas Group contain irregular lodes of sulphide mineralisation. These may have resulted from remobilisation and reconstruction of syngenetic sulphides along Devonian structures. Syngenetic pyrite occurs in carbonaceous shales interbedded with acid tuffs.

Analysis of the results from the geochemical and geophysical surveys has led to the interpretation of 12 anomalous zones in which stanniferous replacement type ore deposits may occur. Additional geophysical prospecting is advocated to further define these zones.