

SUMMARY

The Natone Area forms the western margin of the Mt. Black E.L. 1/52. It is comprised of Cambrian rocks, predominantly sedimentary, of the Crimson Creek Fm, Rosebery Group, ? Dundas Group and intrusive ultrabasics, and possibly Proterozoic rocks of the Onah Quartzite and Slate. Numerous small Ag-Cu ("fahlore") fissure-filling deposits were worked in the vicinity of the Ring River around the turn of the century but production was small. Minor Sn-pyrite fissure veins were mined on Colebrook Ridge and copper was produced from a pyrrhotite-Cu-As metasomatic replacement deposit on Colebrook Hill.

Previous mapping and geophysical and geochemical surveys within the area were patchy and disjointed but offer encouragement for further exploration in particular areas. Some areas have received very little attention and further work is required to properly evaluate their mineral potential.

Detailed geological mapping, soil sampling and a ground magnetic survey have been carried out on a grid over the western flank of Colebrook Ridge and an I.P. survey was conducted over a grid in the Natone Creek-Williamsford area. Other exploration has been of a more regional nature and includes mapping, stream sediment sampling, airborne E-M and aeromagnetics. Two diamond drill holes tested I.P. anomalies within Rosebery Group sediments near Natone Creek. They intersected mineralised zones of 6m and 15m apparent thickness respectively containing pyrite-quartz-siderite veinlets. The 6m intersection averaged 1.9% Zn. A third diamond hole was drilled in the vicinity by the Mines Dept. for stratigraphic information.

The greatest potential of the Natone Area is for pyrrhotite-rich Sn-Cu (-As) replacement deposits analogous to Renison Bell. The Colebrook Mine represents this style of mineralisation (except for the apparent lack of tin) and E-M and aeromagnetic results suggest that there are good prospects for finding extensions of this deposit. Aeromagnetic and E-M results from the remainder of the area are not encouraging but do not negate the possibility of a viable tin deposit. The area also has potential for distal-facies stratiform volcanogenic base metal deposits and the two anomalous zones adjacent to Natone Creek deserve follow-up in this regard.

An exploration programme of two stages (no time order implied) is recommended to search for tin and base metal mineralisation. Phase One involves gridding, detailed mapping, soil and rock chip sampling, ground magnetics and an I.P. survey north and south of the Colebrook Mine. Anomalous Pb-Zn soil values associated with serpentinite near Line 6N of the Colebrook Grid require additional mapping, soil and rock chip sampling and a small I.P. survey to identify the source. Mapping, soil and rock chip sampling, ground magnetics and possibly further I.P. work are needed to follow-up the two anomalous I.P. zones near Natone Creek. \$43,000-00 would be necessary for the proposed programme.

The second phase involves detailed mapping of creeks and access tracks in conjunction with a regional stream sediment sampling programme. \$27,000-00 would be required for the second phase as recommended.