



REPORTS OF PROJECT GEOLOGISTS

ZINC DEPOSITS
SOUTHEASTERN BRITISH COLUMBIA

By Trygve Hoy

A study of lead-zinc deposits in southeastern British Columbia was initiated in the latter part of the 1974 field season. The following deposits were visited and sampled: the Kootenay King and Sullivan mines, stratabound zinc-lead deposits in Aldridge Formation (Lower Purcell) argillites and quartzites; the St. Eugene mine, a transgressive vein deposit in argillaceous quartzites of the Aldridge Formation; the Mineral King mine, sphalerite - galena - pyrite - barite replacement deposits in Mount Nelson Formation dolomites. 'Shuswap-type' deposits visited include the CK property, 40 kilometres northeast of Clearwater, and Colby Mines Ltd.'s property, 30 kilometres east-northeast of Enderby. These two occurrences are described in more detail as both are being actively explored.

CK – RIO TINTO (82M/13E)

The CK property, owned by Rio Tinto Canadian Exploration Limited, includes 270 claims located just north of the Raft River-Ritchie Creek junction. The area is accessible by a logging road branching north from Highway 5, 12 kilometres east of Clearwater and continuing north approximately 65 kilometres along the west side of the Raft River.

The area is underlain by metasedimentary rocks of the Shuswap Metamorphic Complex (Campbell, 1963). These include biotite - quartz - muscovite - feldspar \pm garnet gneisses with minor amphibolite, quartzite, calc-silicate gneiss, and marble units. In the western part, a light-coloured, fine to medium-grained 'granitic' intrusive rock is present. Quartz-feldspar pegmatite sills and dykes, up to 80 metres thick, intrude the metasedimentary rocks.

Sulphide mineralization occurs as massive sphalerite, pyrrhotite, and minor galena within an original quartz-plagioclase-rich metasedimentary rock (?), and as disseminated sphalerite and minor galena within biotite-diopside quartzite and tremolite-calcite marble. The observed mineralization is confined to patches within a 20-metre stratigraphic thickness of metasedimentary rocks and over a strike length of 120 metres. Some of the mineralized patches are marked by pronounced gossan breccias consisting of rotated blocks of massive sulphide cemented by limonitic material.

FX, FC – COLBY (82L/10E)

Colby Mines Ltd.'s property is located 48 kilometres by road east of Enderby, 15 kilometres north of the Shuswap River, and just east of Kingfisher Creek.

The area is underlain by garnet - biotite - quartz - feldspar gneiss, tremolite-calcite marble, calcareous quartzite, and occasional amphibolite units. Quartz - feldspar ± garnet pegmatite dykes are common throughout the area, and 'quartz-eye' porphyry dykes are less common.

Sulphide mineralization consists of sphalerite and pyrrhotite with minor galena and pyrite in quartz-rich biotite gneiss, biotite quartzite, and calc-silicate gneiss. Sphalerite, pyrrhotite, and galena are also concentrated in quartzite breccia zones and sphalerite and pyrrhotite are disseminated in a tremolite-calcite marble. The marble is at least 300 metres thick and appears continuous over a strike length of at least 6 kilometres. Sulphide mineralization within the marble unit is restricted to distinct zones near the centre of the claim group, and at both the northern and southern extensions of the marble unit.

REFERENCE

Campbell, R. B. (1963): Adams Lake, British Columbia, *Geol. Surv., Canada*, Map 48-1963, 82M/W.