

Appendix:

Methods

Polished thick and thin sections of selected samples of Cordilleran polymetallic ore were petrographically studied by standard reflected light microscopy and analyzed by a CamScan MV2300 scanning electron microscope (SEM) equipped with an Oxford Instruments energy-dispersive X-ray spectrometer (EDS). The compositions of tennantite-tetrahedrite, enargite, sphalerite, and Cu-Sn-bearing sulphides were determined using a JEOL 8200 Superprobe electron microprobe (EMP) at the University of Lausanne. Standards used for the analyses include ($K\alpha$, if not otherwise specified): MnS for Mn, Bi_2Se_3 for Bi ($M\alpha$), stibnite for Sb ($L\alpha$), SnS for Sn ($L\alpha$), pyrite for S and Fe, GaAs for As ($L\alpha$), CdSe for Se ($L\alpha$), bornite for Cu, sphalerite for Zn, Cu_3VS_4 for V, and the pure elements for Ag ($L\alpha$) and Te. A sphalerite standard was used for S determination in sphalerite. A correction was applied for a Te over Sb peak-overlap. Analytical conditions were: beam current 30 nA at an acceleration voltage of 20 kV, and a beam diameter of 1 μm . Counting times for all elements were 20s on the peak and 10s on the background.