

Supplementary material S6 for the following article:

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Journal: An Archean porphyry-type deposit: Cu-Au mineralization associated with the tonalite–diorite Chibougamau pluton, Abitibi greenstone belt, Canada

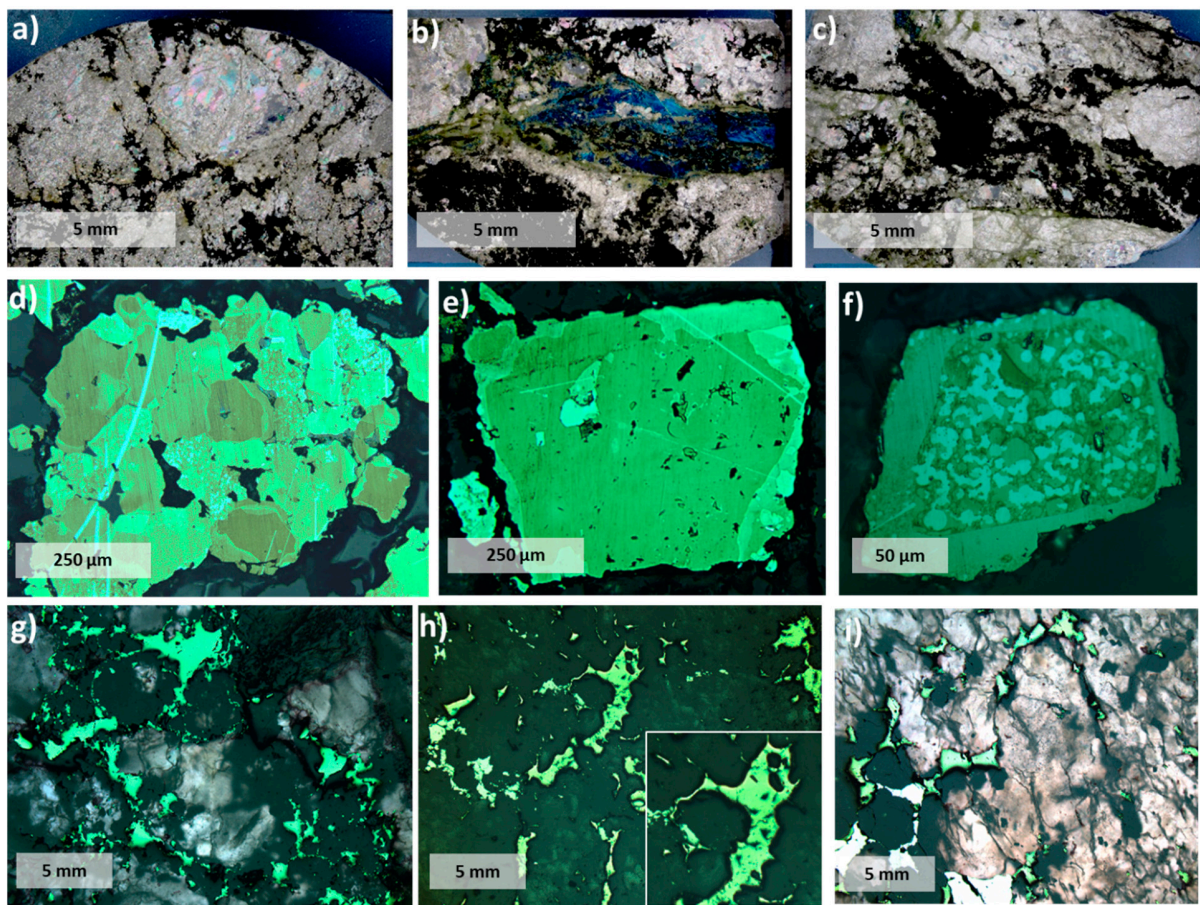


Figure S6A. Part 1

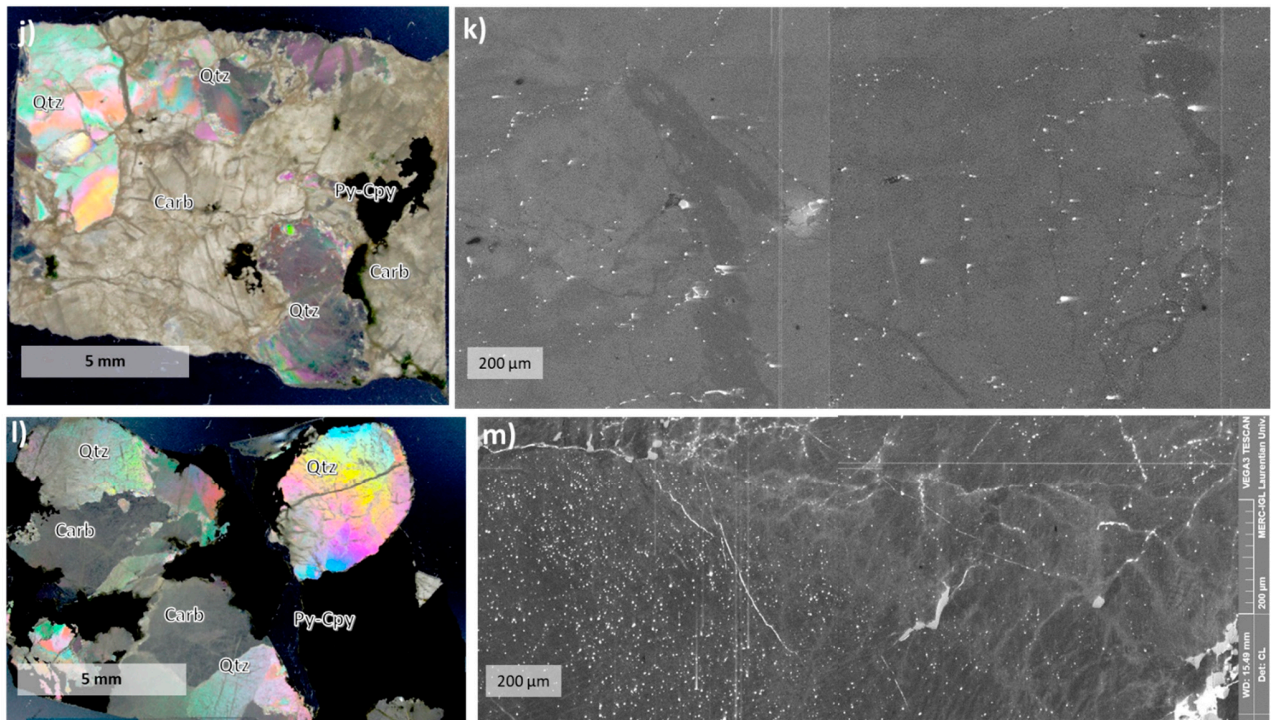


Figure S6A. Part 2

Figure S6A. Petrographic study of the two samples used for fluid inclusions (FI) studies.

Scans of polished thin sections taken in cross polarized light (CPL), plane light (PL), reflected light (RL), and combined RL and PL. Images K and M correspond to cathodoluminescence (CL) images.

- A-C) Images in CPL showing highly variable quartz textures with areas of coarser eyes or subgrains and the vein-like nature of the sulfides (black) consisting of chalcopyrite and pyrite. Image B shows Fe-rich chlorite (berlin blue) and green biotite associated with sulfide veins.
- D-F) RL images of stained (bleach solution (NaOCl)) pyrite grains highlighting complex internal textures; the white lines are from polishing.
- G-I) Combined RL and PL images showing chalcopyrite that post-dates quartz. Inset in H shows chalcopyrite overgrows euhedral quartz.
- J, K) CPL image of quartz-carbonate-pyrite-chalcopyrite vein and close-up CL image of quartz from upper left part of the image L. Note distinct areas of dark and bright CL and also bright spots due to grinding powder in fractures and opened FI pits.
- L, M) CPL image of quartz-carbonate-pyrite-chalcopyrite vein and close-up CL image of quartz from upper right part of the image J. Note the network of bright CL that clearly cuts areas of darker CL. Bright spots are grinding powder filling fractures and/or opened FI pits.

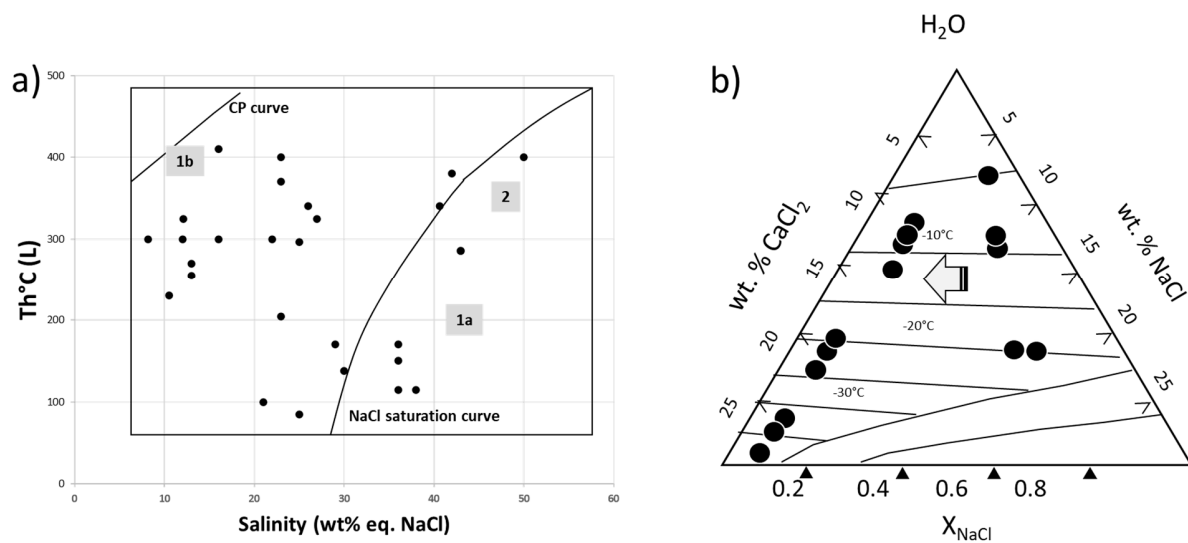


Figure S6B. Thermometric data for quartz –hosted fluid inclusions (FI).

- Salinity vs Th binary diagram for FI types 1a, 1b and 2 FI with curves for the critical points (CP) and halite saturation also shown.
- Fluid chemistry derived from the measurement of both ice and hydrohalite melting in FIA (i.e., average of data for several FI observed) in the H₂O-NaCl-CaCl₂ ternary diagram. The arrow indicates the possible increase in Ca in the fluid related to fluid:wall rock interaction, as discussed in the text.

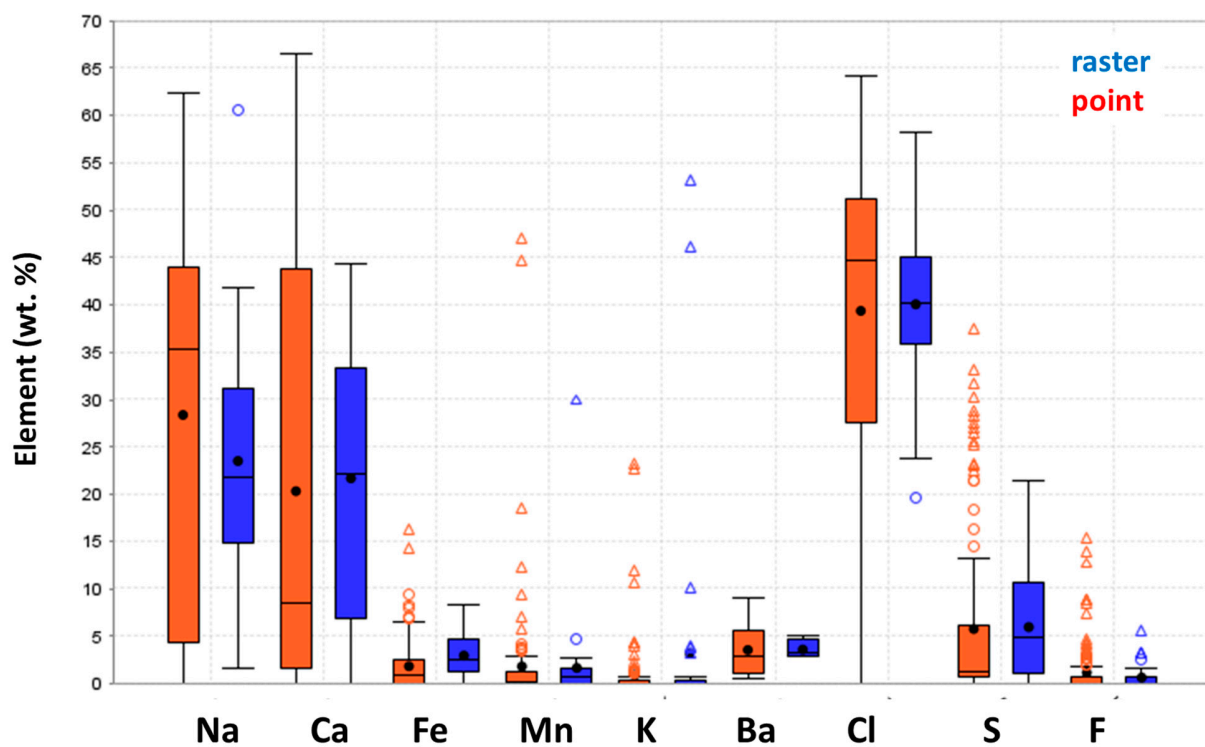


Figure S6C. Box and whisker plots summarizing the chemistry for analyses of of evaporate mounds. Note the data are broken into raster versus point analyses, as discussed in the text.