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Supplementary data for application of trace-element compositions of detrital apatite to explore for porphyry deposits in central British Columbia

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GeoFile 2016-01 provides tables with electron microprobe (EMPA) and laser ablation – inductively coupled plasma mass spectrometer (LA-ICP-MS) analytical results of apatite grains separated from till and mineralized bedrock samples collected as part of the Geological Survey of Canada’s collaborative Targeted Geoscience Initiative-4 Program. The samples were obtained from the regions of porphyry mineralization at the Gibraltar, Highland Valley Copper and Mount Polley mines, and the Woodjam developed prospect in central British Columbia. This GeoFile serves as a data repository for interpretations presented by Rukhlov et al. (2016) in BC Geological Fieldwork 2015. In addition, Appendix 4 lists calculated parameters for the apatite grains discussed in Rukhlov et al. (2016).

Keywords: Apatite, trace-element compositions, LA-ICP-MS, EMPA, porphyry Cu-Mo, alkaline porphyry Cu-Au, till, indicator mineral, mineral exploration, Gibraltar mine, Highland Valley Copper mine, Mount Polley mine, Woodjam prospect.

Appendix 1. Detection limits for EMPA and LA-ICP-MS analyses of apatite grains from tills and mineralized rocks at Gibraltar, Highland Valley, Mount Polley, and Woodjam porphyry deposits in central British Columbia and statistics for Durango and Madagascar apatites and NIST reference glasses analyzed together with the apatite samples in this study.

Appendix 2. EMPA and LA-ICP-MS data for apatite grains from tills and mineralized rocks at Gibraltar, Highland Valley, Mount Polley, and Woodjam porphyry deposits in central British Columbia.

Appendix 3. EMPA and LA-ICP-MS data for Durango and Madagascar apatites and NIST reference glasses analyzed together with the apatite samples in this study.

Appendix 4. Calculated discriminant-function scores, chondrite-normalized rare-earth element ratios, and classification of apatite grains from tills and mineralized rocks at Gibraltar, Highland Valley, Mount Polley, and Woodjam porphyry deposits in central British Columbia.

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