Geofile 2013-5

Lithogeochemical data from porphyry environments between Princeton and Merritt

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Contents

This document outlines the contents of Geofile 2013-5, which includes 2 files:
Geofile2013-5 PorphyryCu-AuGeochemistry Mihalynuk&Logan.pdf (this document)
Geofile2013-5 PorphyryCu-AuGeochemistry Mihalynuk&Logan.xls (Excel format workbook containing five data tables (worksheets)

Sheet 1 Lab and Field sample number cross reference, includes sample locations given in UTM coordinates (NAD 83, UTM zone 10).
Sheet 2 ICPMS analyses of mineralized samples, Acme
Sheet 3 ICPMS analyses of additional mineralized samples, Acme
Sheet 4 INAA analyses of mineralized samples, Actlabs
Sheet 5 ICPMS (research grade) lithogeochemical analyses, Actlabs
Sheet 6 Actlabs QC

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Geofile2013-5 PorphyryCu-AuGeochemistry Mihalynuk&Logan.xls 0.2 Mb

Geofile 2013-5 synopsis

Geofile 2013-5 contains analytical results from samples collected during fieldwork conducted as part of the on-going Porphyry Copper-Gold project (Logan and Mihalynuk, 2005). This component of the project was focused on the geological setting of porphyry and related mineralization between Princeton and McLure. Samples were collected from the regions within and around the following deposits (from south to north): Miner Mountain (see Mihalynuk and Logan, 2013a), Axe, Dillard Creek (see Mihalynuk and Logan, 2013b), and Bonaparte Gold (see Logan and Mihalynuk, 2013a). In addition,

samples were collected from the Zig developed prospect as well as sections of well-exposed basalt near the communities of Aspen Grove and Logan Lake. For a province-wide overview of the prolific Late Triassic – Early Jurassic porphyry copper-gold deposit epoch, see Logan and Mihalynuk (2013b).

Two groups of samples were submitted for analysis. Samples of the first group displayed indications of mineralization in a location that was not previously well sampled, or from which it was advantageous to sample again –typically with the aim of analyzing a broader suite of elements than had been reported previously. Samples of the second group were selected as representative of stratigraphy or magmatic epochs and analysis was undertaken for geochemical characterization. Samples of the first group were analyzed by Inductively Coupled Mass Spectroscopy (ICP-MS) following Aqua Regia digestion fo a >15 g sample (1F05 ultratrace + 1F08 (PGE)) at Acme Analytical Laboratories (Vancouver) Ltd. of Vancouver (henceforth Acme) and those analyses were augmented with Instrumental Neutron Activation Analyses (INAA) at Activation Laboratories of Ancaster Ontario (henceforth Actlabs). Samples of the second group were analyzed by ICP-MS at Actlabs (WRA + Trace4lithoresearch) following lithium metaborate/tetraborate fusion with additional elements / augmentation by INAA (4B INAA). Further details of analytical procedures including limitations such as interferences, can be obtained from the company websites.

All samples (except for standards) were prepared at the BC Geological Survey Branch laboratory facilities in Victoria. Samples were pulped in a chrome steel disk mill following sample reduction to pea-sized fragments in a jaw crusher using steel plates (hence potential for Fe and Cr contamination).

References

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Mihalynuk, M.G., and Logan, J.M., 2013b. Geological setting of Late Triassic porphyry Cu-Au mineralization at the Dillard Creek property near Merritt, southern British Columbia. In: Geological Fieldwork 2012, BC Ministry of Energy, Mines and Natural Gas, British Columbia Geological Survey, Paper 2013-1, in press.