

INTERPRETED PIMA-II SWR MINERALOGY

PLATE No. 2468.1

Batu Hijau Cu-Au 5

porphyry

Australasian & Pacific Porphyries

Sample	Mineral1	Mineral2	Mineral3	Mineral4	Possible Mineral1	Possible Mineral2	Dominant Illite/muscovite composition
001r	illite-smectite	kaolinite	chlorite/biotite				muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
002r	illite-smectite	kaolinite	chlorite/biotite				muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
003r	smectite	chlorite	kaolinite		+/-biotite		
004r	smectite-illite	kaolinite	chlorite				tending to phengitic (i.e. Mg/Fe substituted and/or low octahedral Al)
005r	Mg biotite/phlogopite						
006r	smectite-illite?						muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
009r	?						
010r	illite	chlorite/biotite			+/-carbonate	+/-kaolinite	tending to paragonitic (i.e. sodic and/or high octahedral Al)
011r	illite-smectite?						muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
012r	smectite-illite	chlorite/biotite			+/-carbonate	+/-kaolinite	muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
013r	?						
014r	illite?	chlorite?					paragonitic (i.e. sodic and/or high octahedral Al)
015r	dickite	illite-smectite					muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
016r	illite	chlorite/biotite	dickite		+/-kaolinite		muscovitic (i.e. potassic or of "normal" muscovite or illite compositions)
017r	Int chlorite	epidote			+/-carbonate		
018r	smectite	chlorite/biotite			+/-carbonate		
019r	?						
020r	?						

Samples on Lithothèque plates number left to right, commencing at top left. Samples are numbered 001-020. The letter after the number refers to the type of measurement made: r = representative; v = vein; vs = vein selvage; m = matrix; c = clast; l = layer; p = phenocryst (if large). Not all plates contain 20 samples; not all samples have been measured; some samples have multiple measurements. THIS PAGE IS DESIGNED TO BE PRINTED.

Summary of Batu Hijau Lithothèque Plates 2464.1, 2465.1, 2466.1, 2467.1, 2468.1

The samples from the supergene alteration zones at Batu Hijau are characterised by spectra that are dominated by chrysocolla and malachite, with minor brochantite, alunite (Na-alunite) and kaolinite. The spectra from the chalcocite and hypogene zones are typically of low reflectances and noisy due to the presence of sulphides and magnetite. These zones are dominantly characterised by biotite, ankerite, illite, kaolinite/dickite, smectite and chlorite, minor (probably primary) hornblende. The biotite appears to be of an intermediate Fe-Mg composition, which appears to be a characteristic of the Batu Hijau alteration system, as biotites in porphyry systems are often more Mg-rich. The alteration zones represented by the samples in plate 2467 are characterised by chlorite, epidote and ankerite (propylitic altered samples), illite/sericite, kaolinite, pyrophyllite, smectite, chlorite (sericite-chlorite-clay zone) and biotite, ankerite and chlorite (biotite alteration zone). The illite at Batu Hijau appears to be Al-rich (which is often due to a paragonitic, Na-rich, composition) and of varying crystallinities from moderate to high.

Please note that the summary is based on a relatively small number of samples which are not spatially attributed. Conclusions drawn are, therefore, indicative rather than definitive of the spectral and mineralogical characteristics of this deposits.

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