INTERPRETED PIMA-II SWIR MINERALOGY

PLATE No. 2494.1

Pierina Mine ores Au-Ag 1 Epithermal acid sulphate South American Epithermals

Sample	Mineral1	Mineral2	Mineral3	Mineral4	Possible Mineral1	Possible Mineral2	Dominant Illite/muscovite composition
001r2	water	kaolinite			+/-illite		
002r	water	kaolinite			+/-illite		
005r	K-alunite				+/-pyrophyllite		
006r	K-alunite				+/-pyrophyllite		
007p	water				+/-kaolinite	+/-illite	
007r	water				+/-kaolinite	+/-illite	
008p	water						
008r	water				+/-dickite		
009r	water	?			+/-gibbsite		
010r	K-alunite				+/-diaspore		
012p	K-alunite				+/-diaspore		
012r	K-alunite				+/-diaspore		
013r	K-alunite				+/-dickite	+/-diaspore	
014p	water				+/-kaolinite/halloysite		
014r	water						
015r	water	kaolinite			+/-alunite		
016r1	water	kaolinite					
016r2	water						
017r	water	kaolinite/dickite			+/-alunite		
018p	water						
018r	water						
019r1	water	kaolinite			+/-illite		
019r2	water						
020r	water	dickite			+/-alunite		

Samples on Lithotheque plates number left to right, commencing at top left. Samples are numbered 001-020. The letter after the number refers to the type pf 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 Pierina Lithotheque Plates 2494.1, 2494.2, 2495.1, 2495.2, 2496.1

The alteration at Pierina is characterised by alunite (K-alunite), pyrophyllite, dickite (+/or kaolinite) and illite/muscovite. Chlorite, carbonate and smectite are identified in the regionally propylitised samples. As often observed in epithermal systems, the illite appears to be mostly Al-rich (which is often due to a paragonitic, Na-rich, composition) although more than two phases of illite are observed in many samples (one of paragonitic composition and another of more muscovitic compositions). The illite also displays variations in crystallinity, and appears to be more smectitic in the outer alteration zones. Baryte associated with the late hypogene oxidation displays a spectrum characterised by deep water absorptions, which are largely non-diagnostic. However, the main water absorption feature near 1900 nm has a minimum near 1930 nm, which is unusual for most minerals and may be characteristic of the baryte phase at Pierina.

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.

Interpretation by Dr Sasha Pontual of Ausspec International: http://members.ozemail.com.au/~pima/