

Samples 1628, 1629.

The report provides from thin and polished sections descriptions of ore samples which were submitted by Mr W. D. Smyth.

Major sphalerite, dissociated pyrrhotite (now pyrite) and minor chalcopyrite, exist in an equilibrated recrystallised habit in an essentially calc-aluminous skarn assemblage. It seems probable that the sulphides were originally the syngenetic components of an aluminous shaley limestone which became involved with intrusive granite. The fluorine component of the vesuvianite in 1629; and the microcrystalline silica, and the hydrothermal alterations in 1628, emanated from the granite.

SMD 13 J 90m.

1628 Sphalerite-pyrite in silicified-zoisitised-chloritised grossularite skarn.

In an average cross section through the core, sphalerite is more abundant than is pyrite; and much of it is in coarser masses. The sphalerite is both disseminated amongst the gangue at grain sizes of 0.01 - 0.2 mm; and is present in elongate (several cm x 2 - 3 mm) masses. In the former habit, pyrite anhedral of 0.1 mm average size occur with the sphalerite; and in the latter habit, the pyrite is either 0.5 mm in size, or enclosed within sphalerite as elongate masses of 4 - 8 mm x 2 - 4 mm.

In the finer disseminated habit the highly irregularly shaped single anhedral of sphalerite would, with moderately fine grinding, free readily from the gangue minerals and the pyrite. The individual sphalerites embody only sparse minute