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1. INTRODUCTION

Two samples of material, rich in sphalerite, collected from a drill core through a skarn at Moina, Tasmania were submitted for investigation by BRA. A qualitative study of the mineralogy of the skarn was requested, with special reference to the mode of occurrence, distribution, composition and possible beneficiation of the zinc minerals (GSIF 30/1/80 from MTE/214).

Both samples were examined in transmitted and reflected light. X-ray powder diffraction patterns were made of each of the samples. One of the samples was also investigated qualitatively with the electron probe microanalyser using the energy dispersive system (EDS) attachment:

2. RESULTS

2.1 Sample 1628, TS 6264, PS 5485 *SMD 13 at 90m*

This sample is a granular mixture of sphalerite, siderite, grossularite and subordinate quartz. Relict granules of the garnet mostly surrounded by thick rims of siderite, and 50 - 300 μm in size, are mixed with very variably sized patches of deep red sphalerite. The quartz is generally present as small (20 - 50 μm) optically strained grains mixed with the siderite. Occasionally the quartz is either enclosed by the sphalerite, or occurs as coarser-grained vein-like aggregates enclosing sphalerite. A small number of subhedral and anhedral grains of pyrite are also present (mostly 50 - 200 μm in size). The pyrite is almost always associated with the sphalerite. A grain of pyrrhotite was also observed.

2.2 Sample 1629, TS 6265, PS 5486 *SMD 13 at 100m*

This sample is composed of masses of granular grossularite, patches of strongly zoned vesuvianite, abundant coarse-grained (mostly > 100 μm and up to several millimetres) deep red-brown sphalerite, minor amounts of green-blue pleochroic amphibole with marginal actinolite-tremolite, and minor amounts of quartz-sericite in patches. A little pyrite, chalcopyrite and pyrrhotite are present